The Oil and Gas Journal

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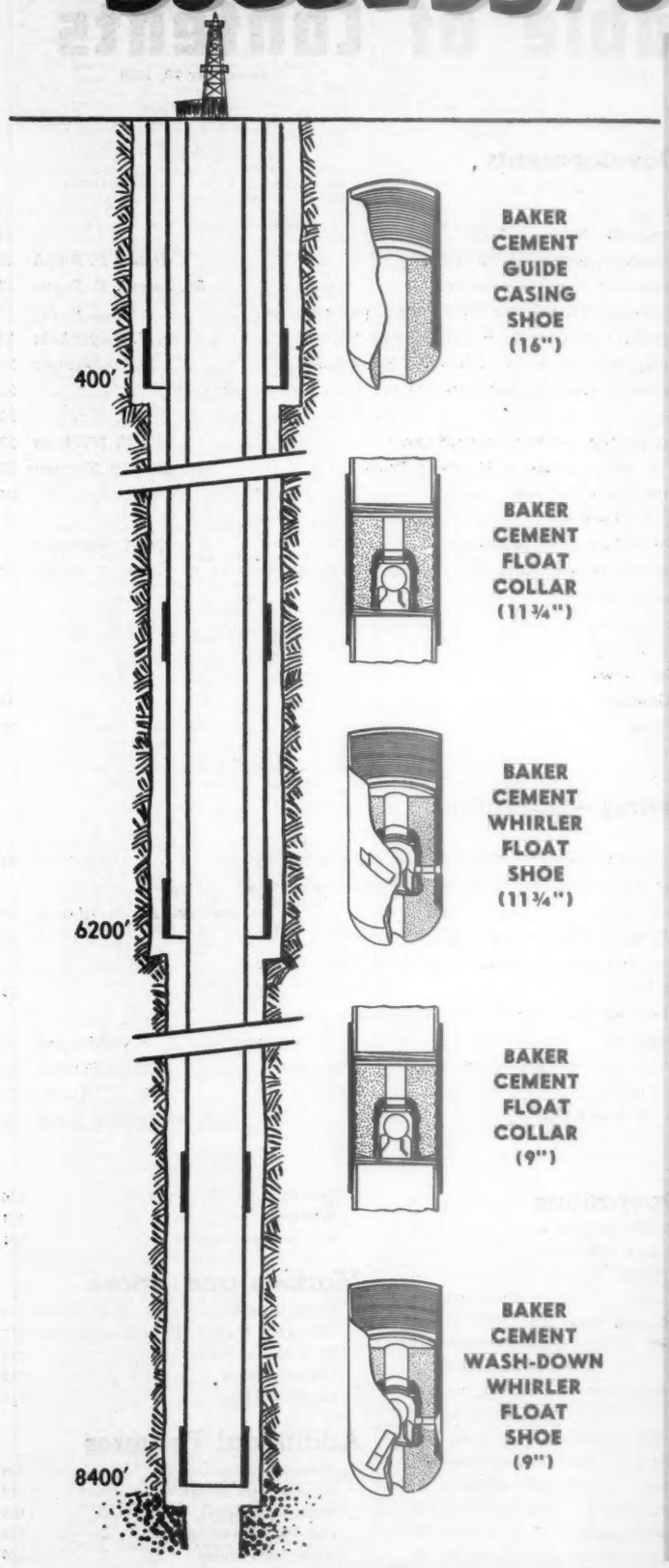
SUCCESSFUL RESULTS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Trends

Delays in Tanker Shipments at Gulf Factor in Markets

THE suspension of part of regular tanker movements, principally from the Gulf Coast terminals, and the continued increase in Illinois crude production are important factors in the oil industry east of California at this time. While there has not been the stoppage of tanker movement to Europe that has been rumored over the past 2 weeks, there has been some curtailment which will become a market factor if continued through October.

CRUDE PRODUCTION *3,676,432 bbl. daily average—up 245,722 bbl. One year ago 3,254,873 bbl.*

CRUDE STOCKS *233,016,000 bbl. as of September 16—down 810,000 bbl. One year ago 280,945,000 bbl.*

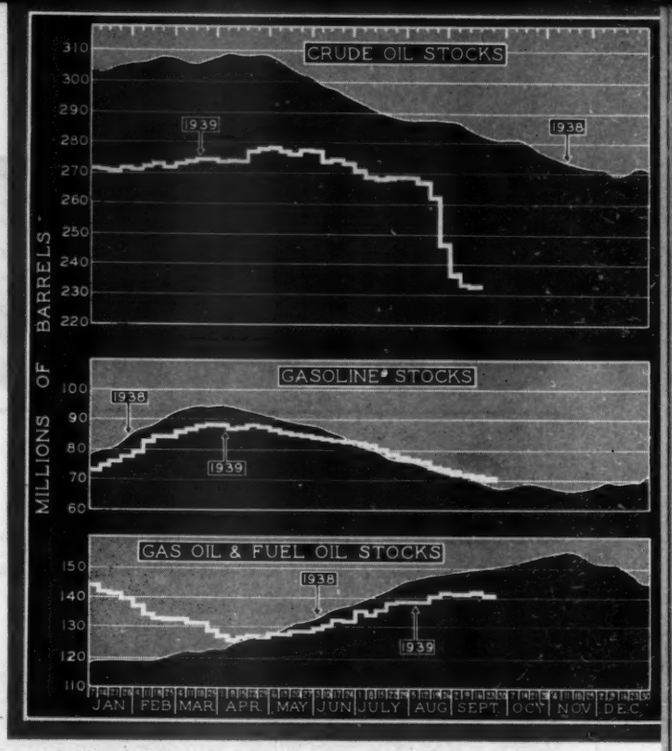
GASOLINE STOCKS *71,020,000 bbl. as of September 23—down 849,000 bbl. One year ago 69,524,000 bbl.*

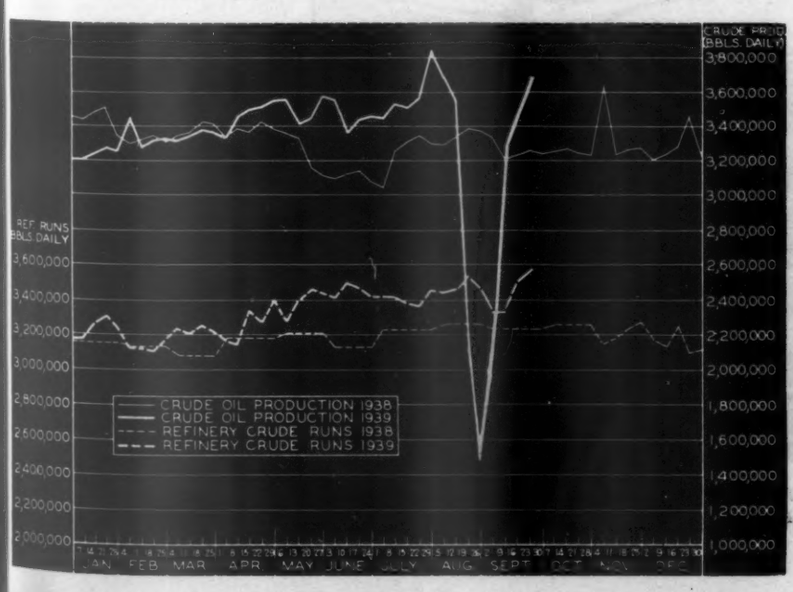
GAS AND FUEL OIL STOCKS *140,969,000 bbl. as of September 23—down 138,000 bbl. One year ago 150,204,000 bbl.*

REFINERY RUNS *3,570,000 bbl. daily week ending September 23—up 100,000 bbl. One year ago 3,233,000 bbl.*

Oil, being contraband, is subject to seizure by the Germans or Allies on the high seas regardless of whose ships are carrying it. This has made tanker owners registered in neutral countries particularly cautious and there have been delays in shipments from the Gulf Coast and Atlantic Seaboard points. The action of the Norwegian Government in refusing to permit tankers of its registry to ship to the countries at war is the most serious blow. These tankers are among the largest transporters of oil.

It is believed that this situation is temporary. Convoy plans are being perfected covering tanker shipments of all registration from this country, South America and Netherland West Indies, from which France and the United Kingdom obtain approximately 50 per cent of their oil supplies. Once these arrangements are completed it will be possible to determine what effect, if any, the war has had on oil demands from those two countries. Oil shipments from N.W.I. and Gulf Coast refineries to Germany, amounting to approximately 50,000 bbl. daily, have been stopped with no indications that these shipments will be resumed.


CRUDE OIL STOCKS
GASOLINE STOCKS
GAS OIL & FUEL OIL STOCKS
1938
1939
MILLIONS OF BARRELS
JAN FEB MAR APR MAY JUN JULY AUG SEPT OCT NOV DEC


CRUDE PROD. BBLS. DAILY
REF. RUNS BBLS. DAILY
CRUDE OIL PRODUCTION 1938
CRUDE OIL PRODUCTION 1939
REFINERY CRUDE RUNS 1938
REFINERY CRUDE RUNS 1939
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Illinois production jumped to 340,000 bbl. daily last week and appears to be headed for 375,000 to 400,000 bbl. daily before the end of the year. It is estimated that close to one-fourth of this crude is sold under the top postings. More small refineries are being built, making larger quantities of gasoline and other products available over a wide area at prices which are too low for profitable competition from Mid-Continent sources of supply. So long as this situation continues it is problematical whether the needed higher postings in tank-wagon and retail prices of the Middle West will materialize, despite the fact that Mid-Continent tank-car market is strong. Reports were not favorable for the inclusion of a conservation measure in a call for a special session of the Illinois Legislature next month.

Refinery markets east of California the past week were generally strong with advances at some points in kerosene and light distillates. The general trend in retail and tank-wagon prices was upward.

DAILY AVERAGE PRODUCTION FOR WEEK

	Sept. 23, 1939	Bur. Mines Sept. est. of demand	Sept. state allowables	Sept. 16 1939
Oklahoma City	88,050	.....	.....	89,450
Seminole fields	37,325	.....	.....	36,950
Remainder of state	272,125	.....	.....	272,200
Total Oklahoma	397,500	429,300	384,950	398,600
East Texas	492,898	.....	.....	271,950
West Texas	260,148	.....	.....	259,398
North Central Texas	118,550	.....	.....	118,000
Texas Panhandle	66,796	.....	.....	57,798
East Central Texas	92,000	.....	.....	91,497
Gulf Coast Texas	366,350	.....	.....	365,048
Southwest Texas	98,650	.....	.....	98,950
Total Texas	1,495,392	1,408,300	1,375,000	1,262,641
North Louisiana	65,410	.....	.....	66,305
Gulf Coast Louisiana	183,150	.....	.....	176,298
Total Louisiana	248,560	255,700	235,475	242,603
California	621,300	596,000	598,300	633,250
Kansas	160,500	166,300	147,705	152,700
Arkansas	65,185	50,700	.....	64,545
Eastern fields	99,800	101,300	.....	97,700
Illinois	340,116	248,700	.....	331,416
Michigan	67,249	55,000	.....	68,365
New Mexico	99,840	108,700	97,000	99,760
Rocky Mountain area	80,990	90,700	.....	79,130
Total United States	3,676,432	3,510,700	.....	3,430,710

SPARKS . . . FROM THE NEWS

BIG FLASH: Illinois reported two new pools, Salem passed 200,000 bbl. daily, and the state's production jumped to 340,000 bbl. daily—a week's record of a state which many, 2 years ago, considered a "flash in the pan" area.

TO RECONSIDER: Having lost in Germany one of its principal oil customers and its principal supplier of needed equipment, Mexico is said to be more willing than ever before to consider the return of its expropriated oil properties to private owners.

MORE LEGALITY: Many don't like the increase in East Texas top allowable and the maintenance of the 20-bbl. marginal-well allowable. Both apparently will be subjected to legal attack soon.

TANKER MARKET: Ability to move tankers in the war zones may become a controlling factor temporarily in the Atlantic Seaboard and Gulf Coast markets.

CONFUSION: The more liberal use of tetraethyl lead is causing so much confusion in retail gasoline markets that many believe more definite designations of grades will be necessary as a protection to both the industry and its customers.

REMOVED: Railroad Commissioner Sadler, back from Washington, says "the threat of federal control has been removed." Must have been talking to the Texas delegation.

GASOLINE FROM GAS: Next year a Mid-Continent refiner will offer an aviation gasoline of 115-octane value made from natural gas and cracked plant gases. None of the gasoline naturally occurring in the crude oil will be utilized.

DEEP EXTENSION: They had to go 11,415 ft. to find the pay but a new test assures an important extension to the Rio Bravo field in California.

AHEAD: Work Projects Administration research forecasts increasing employment in the oil and natural-gas industry for the next 10 or 15 years. And Dr. Pogue tells T.N.E.C. of "a retooling job" in refining that will cost two hundred millions.

HOPE ETERNAL: With prospects of success waning at several Oklahoma wildcats as the bits probe deeper without uncovering production, Sooner operators, ever hopeful, are starting a new crop of outpost tests.

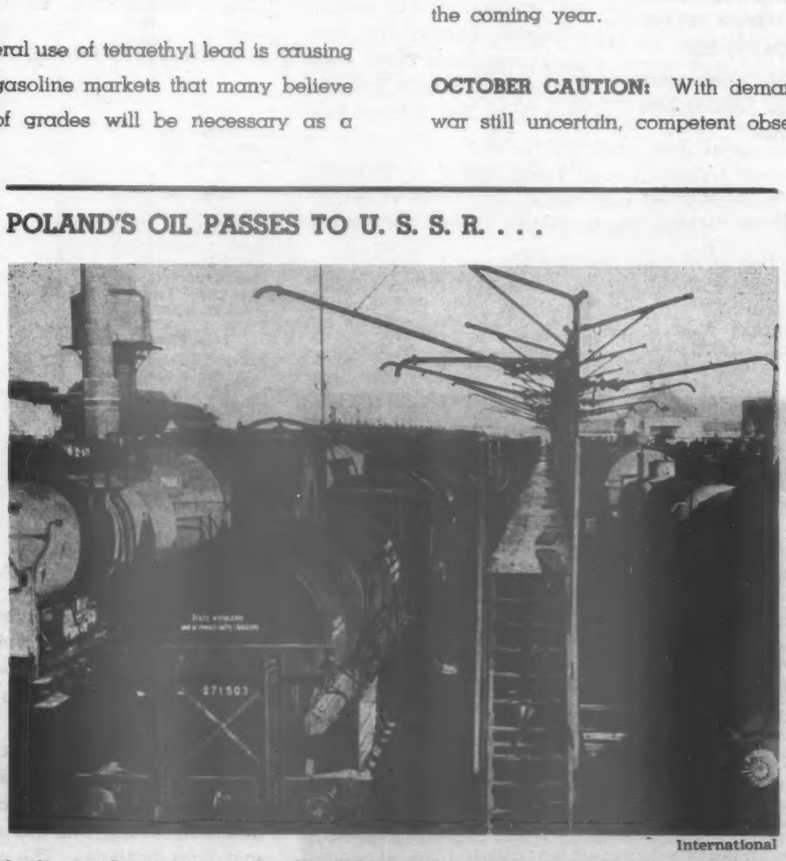
ADEQUATE ANSWER: The 4,000 miles of new pipe line so far this year answers those who have said that pipe-line construction had reached the saturation point. More lines are in prospect for the coming year.

OCTOBER CAUTION: With demand developments due to the war still uncertain, competent observers are urging caution in regard to production levels of fields and refineries during October.

ONE LESS WORRY: Scarcely 2 months ago Mid-Continent refiners were worried about outlets for lubricating oils. Now buyers are begging for material and prices are going in the right direction fast.

RISING INTEREST: Indicative of oversea interest in certain petroleum products, an inquiry for petrolatum was received from Moscow, and one refiner landed a wax order he didn't want.

POLAND'S OIL PASSES TO U. S. S. R. . . .



International

Loading gasoline tank cars at Borysław, Poland, refinery, within conquered territory which presumably will become part of U.S.S.R.

T.N.E.C. Starts Hearings On Oil Industry

By HENRY D. RALPH

WASHINGTON, D. C., Sept. 26.—A thorough dissection of the present organization of the oil industry by the scalpels of both its friends and its enemies is being made in the laboratory of the Temporary National Economic Committee at hearings which opened Monday and will run for 2 or 3 weeks with some 30 witnesses scheduled to appear.

The announced purpose of permitting the oil industry to tell its own story is being followed to the extent that witnesses are responsible for their own testimony, and no federal agency is directing the presentation. But Department of Justice attorneys have gone over every statement in advance and are ready with searching crossexamination; and the committee has seen to it that elements in the industry complaining about various conditions have been given ample time to appear. These witnesses are being sprinkled in among the six men selected by the American Petroleum Institute to tell what is credited with being the story of the majors. Also the committee prefaced the hearings with two witnesses of its own, Dr. John B. Ise of the University of Kansas, and Dr. J. E. Pogue, vice president, Chase National Bank, New York.

The importance of the oil industry in national defense took a prominent place in the hearings, being stressed by Chairman Joseph C. O'Mahoney in his opening statement and being mentioned by a number of following witnesses; and it appeared that this aspect may have an important bearing on the committee's recommendations. What these recommendations will be is conjecture at this point, since all sorts of suggestions are being made by the witnesses; but there appears to be more attention to conservation and overall efficiency as an industry and less to details of suspicious-looking trade practices and transactions, as compared with other industries examined by T.N.E.C.

In opening the hearings, Chairman O'Mahoney pointed out the departure from the procedure of earlier studies in that the facts and opinions presented have been selected, not by the committee or any agency of the Government, but by spokesmen of the oil industry.

Emphasizing that unemployment of capital as well as unemployment of men "is the central question mark that rises above us all," Chairman OMahoney's opening statement further declared that the importance of the task is only emphasized, not minimized, by the international situation. "The European war itself is one result of the failure to find economic security in the Old World, and it must be clear that the outbreak of the conflict there only makes more necessary our own determination to learn the facts which lie at the root of the economic problem," he said.

Recapitulating the purposes of the committee's study, Chairman O'Mahoney also said: "The task of the committee with respect to prices becomes more important, if that were possible, as a result of the conflict in Europe. Already fears of profiteering have been expressed." His remarks were not directed to the oil industry, the chairman explained. He pointed out that the committee is in a position of advantage to watch changes in prices and to study their causes. He concluded by saying that "in national crises the products of the oil industry are absolutely essential, and war makes a special demand for petroleum."

Members of the Temporary National Economic Committee during a session. Facing camera are Rep. Hatton W. Sumners of Texas, vice chairman; Sen. Joseph C. O'Mahoney of Wyoming, chairman; Dr. Isador Lubin, Commissioner of Labor Statistics; Sen. William E. Borah of Idaho, and Sen. William H. King

Dr. Ise First to Testify.

The first witness was Dr. Ise whose statement was based largely on returns to questionnaires sent to the industry. He also placed in the record a series of 35 charts and a large volume of statistical material prepared by the committee staff from these questionnaires. Copies of the questionnaires and lists of the companies to which they were sent and those which answered were put into the record by Chairman O'Mahoney.

Dr. Pogue, appearing in his individual capacity as an expert on oil, was the second and principal witness of the opening session. He filed without reading a 32-page mimeographed report backed by four tables to cover the topic of "Proration and Conservation" which he had been asked to discuss. Dr. Pogue presented an oral summary of his report and was questioned extensively by members of the committee, notably Chairman O'Mahoney and Vice Chairman Sumners. The witness encountered persistent questioning as to the effect of proration upon prices, the equitableness of formulas for the division of the proceeds of the unit operations, etc.

From the point of view of efficiency, any reasonable degree of restriction in the rate of flow is preferable to wide-open operation, Dr. Pogue declared. Every oil pool, he said, has some best rate of flow or optimum flow under which the maximum recovery consistent with economic limitations is obtained. According to the witness, the rates of output of many prorated fields now approach their optima. "If all oil fields were limited to their respective optimum rates, we would then have the basis for the most efficient production of our petroleum resources obtainable under present knowledge."

Much of Dr. Pogue's oral discussion dealt with historical and technological aspects of the industry.

"Conservation cannot be attained except in the presence of a much greater reserve than is required to support flush production, and furthermore, the reserve cannot be stepped up from a flush size to an optimum size without the aid of a production control that will hold the potential surplus supply underground; and at the same time maintain an incentive for continued discovery," the witness declared.

According to Dr. Pogue, the reserve is now fairly close to an optimum size and hence market-demand quotas carry a considerable complement of conservation attributes. It is apparent, he said, that the evolution may soon reach a point where market-demand quotas can be dispensed with; or rather, where they will grade into optimum-rate quotas. At this stage proration can be conducted as a full conservation measure, with an eye merely to the objectives of optimum recovery and the preservation of equities; with the regulation of the system left entirely to the free operation of natural economic forces. "We are well advanced toward that goal," he said.

Dr. Pogue persistently maintained, under close questioning from various members of the committee, that the incentive for proration was to stabilize the industry, not to raise prices. He differentiated as between prices and costs, saying proration reduces costs and thereby increases profits. He admitted, however, that there are many imperfections in the administration of proration. Nevertheless, he continued, the small operators get "a square deal plus" under proration. Administrative bodies look especially to their protection, he declared.

Chairman O'Mahoney inquired whether the so-called "hot-oil" problem was reflective of the feeling of operators as to the inequitableness of proration, and was told that most of the incen-

tive for such trafficking came from the profit motive.

According to Dr. Pogue artificial prices are impossible of attainment under proration, since it does not destroy enough competition to have any effect upon prices. Aside from pointing out the undesirability of wild gyrations in prices, the witness said the integrated character of a large segment of the industry transmitted the pressure of a large supply right through to the consumer.

Improved technique in the discovery and production of oil, the witness said, assures a supply of oil. "I see no evidence of exhaustion." He said present depths of 15,000 ft. contrast with earlier drillings of 3,000 ft. and foreshadow 20,000-ft. drillings soon.

Chairman O'Mahoney stated flatly during Dr. Pogue's testimony that the question which is constantly arising is whether this particular system (proration) is being abused, or resulting in abuses.

The third witness was Dr. John D. Gill, director the department of economics, Atlantic Refining Co., Philadelphia, whose study comprising a statistical showing of two dozen charts was designed to sum up the "net results of the petroleum industry and the effect of technology upon its achievements, good or bad."

The statistical study was received by the committee with considerable interest. It presented the industry's answer to perennial charges leveled against it and dealt with the following questions: (1) Have prices of petroleum products declined relative to other commodity prices; (2) conservativeness of the growth of the industry's capital structure; (3) earnings of the oil industry, and (4) growth of industry's overall income in contrast with the growth of services it renders.

J. Howard Pew on Stand

A vigorous defense of integration as leading to efficiency and aiding competition instead of monopoly was presented Tuesday by J. Howard Pew, president of the Sun Oil Co., one of the spokesmen of the American Petroleum Institute. The oil industry is typically American, integration is the key to its progress, competition abounds at every point, and the industry has none of the earmarks of monopoly, he declared, defending the industry against all charges of monopolistic practices and anticipating requests to the committee for legislation to destroy integration.

"To me, personally," he said, "any conspiracy of monopolistic domination would be a reprehensible betrayal of the American system of free enterprise, good sportsmanship and equal opportunity. I know that my own company has never been partner in any conspiracy or monopoly. I have never discovered evidence that such a conspiracy existed; and I do not believe that within the period of the industry's modern history it has ever existed."

Integration, instead of making for monopoly, is our one sure weapon against monopoly, Mr. Pew said, showing how it was natural and inevitable for growth and progress; and that there are approximately 100 companies not majors which are integrated to some extent. To prove this statement, he declared the industry has constantly improved its products and lowered its prices, while treating labor well; and has met every other test of public service, largely through the efficiencies of integration.

Turning to the industry's transportation system, Mr. Pew showed how pipe lines, tank cars, tank ships and trucks have been developed by the industry itself in order to provide transportation at less cost; and declared that this system, serving the industry alone, could not have been developed except as a part of the industry and built by it. Independent capital would not take the risk of building a pipe line into an undeveloped field as do major oil companies, and yet independent producers in proven fields are free to build their own lines if they consider monopoly exists, but they have never done so, he pointed out. Pipe lines and other transportation systems are actually plant facilities, he insisted, quoting other authorities for this statement.

Integration is the essence of mass production, Mr. Pew said, drawing parallels with other industries. "Neither integration nor disintegration should be viewed as an end in itself, but rather as a means to the accomplishment of an end. If the result of integration in any industry were to raise prices, depress qualities or limit production, integration in that case would be economically unsound. Conversely, if it is demonstrable (as it is in the petroleum industry), that integration results in lower prices, improved quality and ample supply, then integration is desirable, socially and economically."

Consumer Is Boss

If the business were broken up into divisions, no one would have his eye on the consumer; but in an integrated company the consumer is boss and all parts of the industry must be made to serve him, which would not be the case with hagglers far removed from the consumer and concerned only with their contractual relationships with each other, he said.

"Mass production reduces costs, makes lower consumer prices; but mass production demands mass market. To secure it the producer must turn out a product good enough to deserve a mass market. You might integrate until the cows come home; but if the product wasn't good enough or its cost was too high, you wouldn't sell it. So integration coordinates all the stages of production in the common effort to get the right product. The integrated company can make sure that all its divisions and branches work in harmony to turn out a product always worthy of its name and fame."

Discussing difficulties in oil retailing, Mr. Pew declared integration here improves competition and helps independents and that independents have suffered since major companies began disposing of their filling stations. His argument was that with all retailers independent there is continual price cutting below operating costs, whereas a chain of stations is less apt to engage in local price wars but keeps prices at a profitable level. The charge of too many stations, he said, cannot be made against integration, because majors carefully survey prospective sites; whereas independents locate on any vacant lot irrespective of traffic or competitive conditions.

J. HOWARD PEW

Presentation of Mr. Pew's statement was interrupted frequently by questions from the government panel, especially the Department of Justice representatives. Discussion centered upon the allocation of costs in industry accounting among the various departments, with stress being laid upon the status of marketing and pipe-line operations. The witness declared his company at least did not show any losses on its marketing operations. He explained the difficulty of allocation of overhead costs especially. Admission was made as to the profitableness usually of pipe-line operations, but the point was made of the gamble inherent in investment of funds in such facilities and the overcapacity of pipe lines in the East Texas area. Obsolescence of plant and equipment, sometimes virtually overnight, due to technological developments in refining and other industry practices was cited to the committee. The line of committee questioning was featured throughout by the effect pipe-line control and integration has generally upon independent operators.

Travis Denounces

The first note critical of the major companies was sounded by Marion M. Travis, president of the Southport Petroleum Co., Houston, Tex., and he minced no words in denouncing the sins of the majors in best monopoly-baiting fashion. The true explanation of the situation now existing in the oil industry, he asserted, is the marketing methods employed by the majors. By fixing the tank-wagon market for the bulk of their production and manipulating the spot market on which independents sell, he declared the majors influence runs to stills, inventories, export prices, and crude prices, and he declared:

"I am forced to make the following conclusions, that the major oil companies have evolved a formula that definitely limits the growth and the very existence, not only of the independent refiner, but of the independent producer as well. The components of this formula, considered by themselves, appear to be so innocent and innocuous that it is difficult to recognize them as parts of a definite and sinister formula. Some of these components have even escaped the shrewdest minds of the Government who have sought to delve into the

HIGH-PRESSURE GAS SERIES

Individual recycling plants, distillate fields, repressuring units and the practical application of retrograde condensation have been discussed in The Oil and Gas Journal covering a period of years. However, starting October 5 the first of a series of five articles will be presented to crystallize all modern conceptions of these subjects. Although written along engineering lines, the series present a readily understandable, complete coverage of these modern problems. Also, the first and only complete, up-to-date survey of Texas and Louisiana distillate fields will be included in the series.

mystery of major oil company setups."

He outlined eight ingredients of this formula as follows:

1. Diffused distribution, which permits the majors to defy the modern merchandising trend of eliminating the middleman and permits them to market gasoline at 140 per cent above the spot market, whereas in the food field chain stores market at less than 25 per cent above cost.

2. Tank-wagon quotations, which majors permit to fluctuate only when their business starts falling off after the spot market has been in a protracted decline and independents have been able to make some inroads on the major oil company jobber accounts.

3. The spot market, which majors manipulate as a thermostat by which the number of independent refiners and their state of health is regulated; not daring to destroy the independent refiner completely, majors aim to keep him barely alive on starvation rations and use him as a means of regulating the independent producer.

4. Pipe-line transportation, and the passing on of all or part of the transportation economies effected to the purchaser of the commodity transported in order to destroy competition. Divorcement is not the cure for this evil, but it is confiscatory taxes above a very reasonable return based on valuation and regulation to make them common carriers in more than name.

5. Export spot market for crude and sales below posted field price plus gathering, transportation, and loading costs.

6. Tetraethyl lead licensing, which is less of an economic club now that the policy has been liberalized, coincident with the government suit against the Ethyl corporation.

7. American Petroleum Institute, which affords majors an opportunity to collaborate on policies destructive to independents and which adroitly presents statisical information which may further the purposes of monopoly.

8. Political pull, power, and influence, particularly in state and city governments and state proration bodies, and manifesting itself in many laws and regulations.

Witnesses

The names of the witnesses scheduled to testify and the probable order of their appearance follow:

Prof. J. B. Ise, University of Kansas, Lawrence, Kans. Dr. Joseph E. Pogue, vice president, Chase National Bank, New York. Dr. John D. Gill, Atlantic Refining Co., Philadelphia, Pa.

J. Howard Pew, president, Sun Oil Co., Philadelphia, Pa. Marion M. Travis, Houston, Tex. H. B. Fell, executive vice president, Independent Petroleum Association of America, Ardmore, Okla. John B. Dailey, Houston, Tex.

E. De Golyer, Dallas, Tex. E. O. Thompson, member Texas Railroad Commission, Austin. Karl A. Crowley, Fort Worth, Tex.

Fayette B. Dow, Washington, D. C. Richard B. Kahle, president, Eastern States Petroleum Co., Houston, Tex. Robert C. Knox, El Dorado, Ark. John E. Shatford, El Dorado, Ark.

Robert E. Wilson, Pan American Petroleum & Transport Co., New York. Sidney A. Swensrud, vice president, Standard Oil Co. of Ohio, Cleveland, Ohio. Paul E. Hadlick, secretary, National Oil Marketers Association.

T. O. Grisell, Kendall Refining Co., Bradford, Pa. W. R. Reitz, Quaker State Oil Refining Corp., Oil City, Pa. Charles Suhr, Pennzoil Co., Oil City, Pa. Arthur W. Ransdell, New York. Arnold W. Craft, Craft Oil Co., Avoca, Pa.

Irving B. Culver, National Oil & Supply Co., Newark, N. J. Lester S. Scott, Loughborough Oil Co., Washington, D. C. B. W. Ruark, general manager, Motor & Equipment Wholesalers Association, Chicago. Harry A. Babcock, Federal Trade Commission, Washington, D. C.

Henry A. Crouthamel, secretary, Maryland Association of Petroleum Retailers, Inc., Baltimore. Stanley Cridland, Fernwood, Pa. A. W. Hewett, president, Petroleum Retailers Association, Kansas City, Mo. L. A. Hartley, secretary, Petroleum Retailers Association, Kansas City, Mo. H. H. Anderson, vice president, Shell Petroleum Co., Inc., St. Louis, Mo. William S. Farish, Standard Oil Co. (New Jersey), New York.

Conservation and Proration Analyzed by Dr. Pogue

DR. JOSEPH E. POGUE

Dr. Joseph E. Pogue's statement said in part:

The oil business is a highly technologic mass-production industry, utilizing large amounts of capital and assuming a comprehensive, integrated pattern. The industry is subject to activation at the source by the rule of capture, which widens the range of production costs, impairs the functional aspect of price, creates instability, and at the same time inhibits maximum recovery.

Conservation resolves itself into measures for maximizing the effective use of reservoir energy in the production of oil, despite the contrary influence of the rule of capture. Reservoir energy can be most efficiently utilized by regulating the flow of oil pools to optimum rates, or less, in conformance with engineering principles, even though the pressures of supply may be contrary to this objective. To enable such regulation of rates of flow, there is required a larger developed reserve than would be needed to support open-flow production.

The wide cost range characteristic of flush production under natural conditions prevents the attainment of surplus producing capacity, except at the expense of waste and economic disruption. Proration or some similar restraining influence becomes necessary to support the development of the potential capacity without which conservation is unattainable, and to protect the economy from disastrous repercussions in the transition.

Proration was initiated at the inception of an era of great technical advance in oil-field discovery, as a method for correcting overproduction, but as time went on its latent conservation functions became realizable and of growing application. Proration now is a dual mechanism, still motivated by its economic component but directable with increasing emphasis upon its conservation function. As now administered, proration involves waste prevention by means of restricted flow and ratable takings in the oil fields; and the attainment of a balance between supply and demand through a system of market-demand quotas.

The machinery of proration has developed in more effective degree than its application, so that the problems of proration arise from a lag in technique of application rather than lack of authority; although on the whole the system is working with improving effectiveness. The eventual economic consequences of proration will be favorable if its evolution follows the present trend toward engineering objectives; but unfavorable if the immediate urge for stabilization through further implementation leads to the development of a rigid system of economic controls under which the vigor and flexibility of the industry will be impaired.

For a favorable outcome, proration requires a progressive shift in emphasis from endeavors to regulate the economic actions of groups and individuals to efforts to perfect engineering instruments and procedures capable of effectuating optimum recoveries with attendant stabilization. For the present transition period, the existing machinery is adequate, but needs a correction of disruptive drilling incentives, an atmosphere of price flexibility to equate capital flow, and improvements in the administration of the quota system to bring it gradually into conformance with engineering optima.

If favorable consideration is accorded these matters proration will bring about a new equilibrium on a plane of natural balance between demand and optimum rate of supply, full conservation of the resource, greatly lessened dependence upon a market-demand quota system, and a furtherance of the cost-volume relationships essential for a mass-production industry.

About 20 years ago the oil industry sensed that an oil scarcity lay ahead; and a shortage was indeed imminent but for one factor—technology. The organized forces of applied science upset the expectation and created instead the problem of coping with a surplus. We know apparently stand on the verge of the second great revolution in processing technique, a shift from thermal to catalytic cracking—a retooling job that will cost the industry around 200 million dollars. But the change has to be made in the interest of lowered costs, improved quality, and increased flexibility of yield whereby more of the wanted products can be made from the residual fractions.

A substantial part of our oil is found by daring individuals following unorthodox leads, and such enterprise should not be discouraged. We cannot, therefore, safely plan to have our oil fields preowned as units. Subdivided ownership, however, is the medium in which the rule of capture thrives.

I used to think that the rule of capture should be done away with summarily by legal action, but I now recognize that the direct approach is probably too involved to be practicable. Where the field is owned singly or managed cooperatively, the result is unit operation, which removes

the basis of the capture principle. This procedure is gradually gaining headway in the business and the formation of pool cooperatives should certainly be encouraged in every feasible manner, but the progression toward full unitization, while persistent, is slow, because of the principle of deferment. The most expeditious way, therefore, to handle the rule of capture is to tame it by setting up operating rules under the police power of the states, whereby pools are permitted to be owned as now by a severalty of individuals but these individuals are not permitted to drain their properties at unequal rates because in so doing they commit waste. This, among other things, is what proration is aiming to do. It is a flank attack on the rule of capture.

It has been emphasized that waste can be avoided only by flowing an oil pool at a restricted rate. But when we reduce the rate of flow we narrow the cost range; that is, we smooth out the cost curve. And when the cost curve is smoothed, the price curve is flattened. This principle observable in the single pool holds for the country at large, if fields in the aggregate are restricted. An important relationship accordingly comes to light: Conservation practices per se have a leveling effect upon costs and hence exert a stabilizing influence upon price. This inescapable result is a byproduct of an act necessary on the grounds of conservation alone. As I see the matter, it is a very happy circumstance that those measures best calculated to prevent waste at the same time contribute to economic stability.

The oil industry has come to be dependent upon proration and cannot be operated efficiently without it. Despite the risks of maladjustments arising from the mishandling of the market-demand factor, the inevitability of market-demand proration must be accepted for the present. This aspect of proration may be eventually dispensed with, or at least greatly minimized in its incidence, but the time is not here when this can be done. The market-demand instrumentality must continue to be utilized but, to be sure, with greater regard for the proprieties of a moving equilibrium.

Artificial Drilling Incentives

In the administration of proration, the well rather than the underlying oil reserve has usually been accepted as the ultimate unit for allocation of demand. This policy creates artificial incentives not only for drilling more wells than are necessary to extract the oil but also for drilling in advance of economic requirements, and hence capital is employed prematurely and in unnecessary amounts. In this way the rate of capital flow into production has been distorted, and the disequilibrium created by this circumstance, in my judgment, was one of the causes of the decline in crude-oil prices in October 1938. The maintenance of equity amongst operators and balance in capital flow can be effected through the recognition of the available oil as the unit of proration, and the utilization of this factor as the basis for lease allowables. In this manner the pressure to drill unnecessary wells would be reduced promptly and the conservation of capital made an essential byproduct of the conservation of oil. Once this is done some of the most perplexing difficulties now plaguing the regulatory bodies and the oil operators will be resolved.

In my judgment the existing mechanism of proration is adequate for the purpose, although the machinery itself can be bettered and applied more broadly. The state conservation laws should be extended and systematized. The standards of enforcement should be raised. The compact needs a wider membership and the addition of a fact-finding and engineering function. The Connally Act should be extended and the advisory quotas continued. In general, however, I see no need for new legislation, except in states not now adequately equipped with modern conservation statutes; rather does the system require a clearer perception of the conservation objective and the development of new organs of thought and investigation—a fuller implementation of technique—and a generally keener realization of the functional aspect of price. The shortcomings of proration seem to be those of methodology and administration, rather than those of inadequacies of laws and means of administration (except, of course, in the states backward in the latter respects).

Relative to the price of gasoline the price of crude oil in the recovery period assumed a rigidity that represented an inadequate transmission of flexibility throughout the price structure. Gasoline prices were impaired by a structural change in the marketing channels of small refiners, brought about under the influence of the Madison trial, while crude-oil prices were stabilized by proration; so that, once declining business intervened, a certain disparity was inevitable which bore down upon the refiner with some severity, although this condition has not persisted in its entirety. The situation represented price distortion within the internal structure of the industry and not a transfer of unnatural prices to the consuming public—in short, it constituted an intra-

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Kansas Professor Finds Fault With Industry's Operation

Dr. J. B. Ise, of the University of Kansas, offered the following conclusions:

The relative importance of the 20 major companies has apparently grown appreciably in the past decade or more. Between 1926 and 1937, their percentage of the total crude production rose from 46.3 to 52.5, their percentage of the stocks of crude petroleum and principal petroleum products rose from 76.6 to 94.2, their percentage of refining capacity rose from 65.5 to 75.6, and their percentage of the total gasoline production rose from 71.3 to 83.8. Their position in the industry appears to be growing stronger.

The moderate earnings of these major units—for the years 1924 to 1938, an average of 8.9 per cent on the par or stated value of the common stock, or 5.6 per cent on the book value of the common stock—do not suggest strong monopoly control; but it is significant that these companies earned their profits largely in the departments or functions in which a monopoly position is most clearly indicated. Earnings were princely in the pipe-line departments, high in the refining departments, and fairly high in the producing departments, while the marketing departments, where competition is severe, suffered considerable net losses. Thus the earnings in the different departments corresponds rather closely with the amount of monopolistic elements in each. Viewed from the point of structure, and from the point of view of earnings, the industry thus presents every shading from nearly pure monopoly, in pipe-line transportation, to fairly severe competition, in marketing. Perhaps the general picture would approximate what economists have come to describe as monopolistic competition.

Tendency Towards Monopoly

Through their integration with pipe-line companies, and in other ways, the refiners are in a position to some extent monopolistic. In the marketing of their products, they must meet competition of other refiners, but in the purchase of their crude, they are often in a position more or less monopolistic.

The marketing of oil products is in some respects highly competitive, yet in other respects it shows distinct elements of monopoly. There is some price cutting by independent stations, but the general picture is one of uniform prices set by some dominating company and followed by most of the others—price leadership. Competition is so severe that the marketing business is carried on at a general loss, but the competition appears, not in terms of price, but in terms of an aggressive campaign for gallonage, with heavy emphasis on service and advertising.

Competition between the major-integrated companies, on the one hand, and independent producers or refiners, on the other, is not such as would be found in a genuinely competitive market. In a sense, the integrated companies and the independents are in different businesses. The integrated companies are in the business of taking oil from the ground, transporting and refining it, and selling refined products to ultimate consumers; independent refiners without production are in the business of buying crude from producers, refining it, and selling their products to jobbers or marketers. To some extent the two groups are in different businesses, and do not compete on even terms. The independent refiners must make their profits on refining operations or not at all; integrated companies might suffer losses on their refining operations and yet make fair profits on their business as a whole, by recouping their refining losses in other operations. The significance of this may be seen in the present marketing situation. The marketing of oil products is apparently carried on at a heavy loss, which for independent marketers is a serious matter; but the high earnings of the integrated companies in other operations make up for their losses in marketing.

The oil industry, in conclusion, carries some of the earmarks of a public utility. The pipe lines are recognized as common carriers, and other monopoly elements in the industrial pattern of the oil industry emphasize its divergence from the forms of private competitive business. Crude petroleum, the raw material of the industry, is an irreplaceable natural resource, so essential to our economic life today, and so necessary in national defense, that its conservation is almost inevitably a function of the state. This has been recognized more clearly in some foreign countries than in the United States; yet some of our states have gone far in their recognition of the public aspects of oil exploitation, and in their efforts to prevent the wasting of natural resources. There is little doubt that they must go much further, and that the federal Government will have to render much more help than it has hitherto been able to offer. It is to be hoped that the information collected by the Temporary National Economic Committee will be useful in the formulation of a sound policy with respect to this very important industry.

Changes Bring Confusion in Retail Gasoline Markets

By W. T. ZIEGENHAIN

Making each filling station operate as an independent unit and supplying leaded gasolines to jobbers on a much broader basis has caused temporary confusion in the industry's marketing end

THOUSANDS of temporary pricing signs featuring the higher antiknock value of one or another gasoline have met the eyes of motorists this summer. The crop has been especially heavy along the principal transcontinental highways and in the areas around Chicago, St. Louis, and Kansas City. Large and small marketers alike have used them. While the signs seem to have caused little change in the normal division of gallonage among companies, their continued use is quite significant.

Their display recalls anew that the marketing of gasoline, the principal petroleum product, is a "wide-open" field. Anyone who has the idea there exists any form of price-agreement or monopolistic practices exercised in marketing as it is conducted today, is due for a change of mind as he drives along.

Cause for the generous display of signs has been prompted by two distinct factors. The first is the liberalized use of tetraethyl lead among a much greater number of refiners and jobbers and the other is the desire on the part of these to "cash in" on the national and local advertising provided for Ethyl Gasoline.

They are taking advantage of the fact that few people recognize the marked distinction between "Ethyl Gasoline" and one containing tetraethyl lead. They have not taken the time to learn that the one has a standard minimum quality while the latter may cover a very wide range of quality.

Two General Programs

In order to meet competition offered by the liberalized use of tetraethyl lead among this greater number of refiners and marketers and also among a greater number of grades of gasoline, two general sales plans seem to have been adopted. The larger marketing units in the industry generally adhere to three grades of motor fuel, each containing tetraethyl lead, but the general quality of each is higher than a year ago. This arrangement is primarily applicable throughout the Middle West, wherein the Standard Oil Co. (Indiana) first announced a leaded third-grade gasoline. In this area, comprising 12 states, the practice is to offer three grades of motor fuels, all leaded and ranging in quality from an 81-octane Ethyl Gasoline to a 65-leaded third grade. This practice is also quite generally adopted among bordering states and extends well into the East Coast marketing territory.

In general, the three grades of gasoline come within the range of octane values (L3 method) as follows:

Ethyl Gasoline	78 to 81
Middle or "Q"	72 to 74
Third grade	65 to 67

The price relationship maintained among these three grades is fairly uniform and this is due to the fact that a rather constant difference exists in their relative manufacturing costs. As a result, any "bargains" that are picked up by the motorist are usually less real than imaginary.

The other group or lesser number of refiners and jobbers who operate stations throughout the Midwest, Rocky Mountain, and Pacific Coast states follow a plan of offering but two grades of gasoline. One of these contains tetraethyl lead in sufficient quantities to make it compare favorably in octane value with the regular grade of gasoline (70 to 74), while the other grade may be better than this or not as good, depending upon the individual station operator.

Those who hold Ethyl Gasoline Corp. jobber

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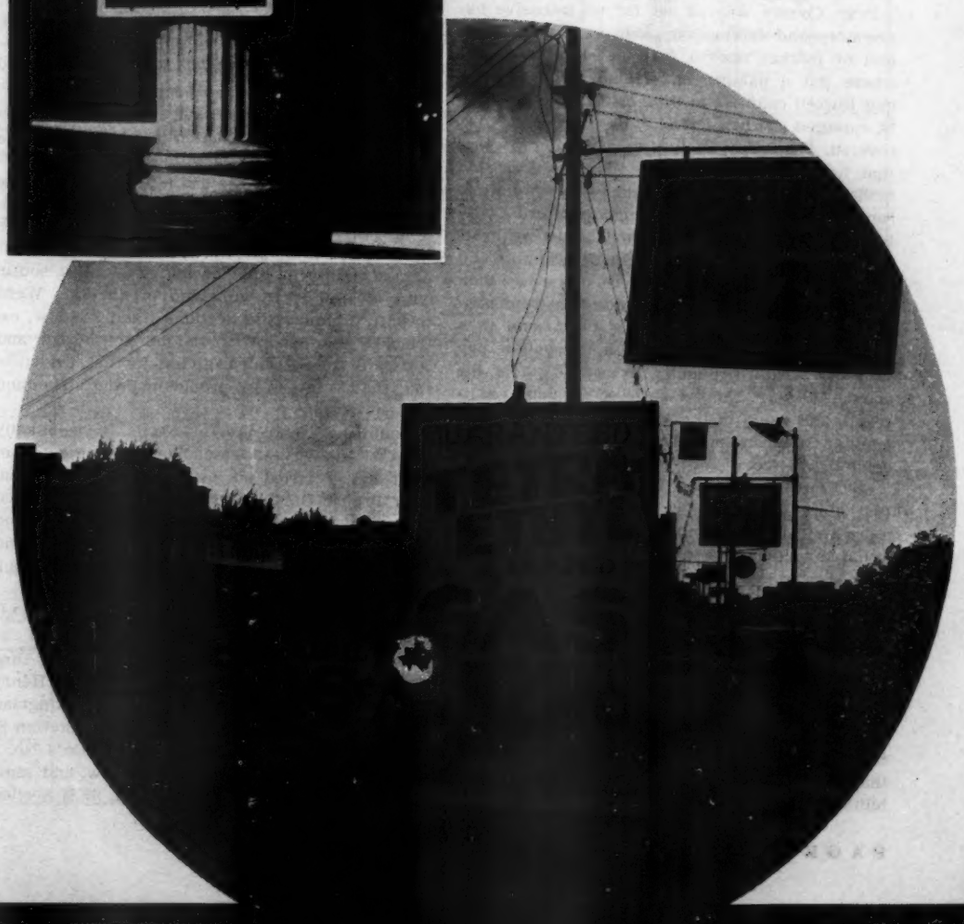
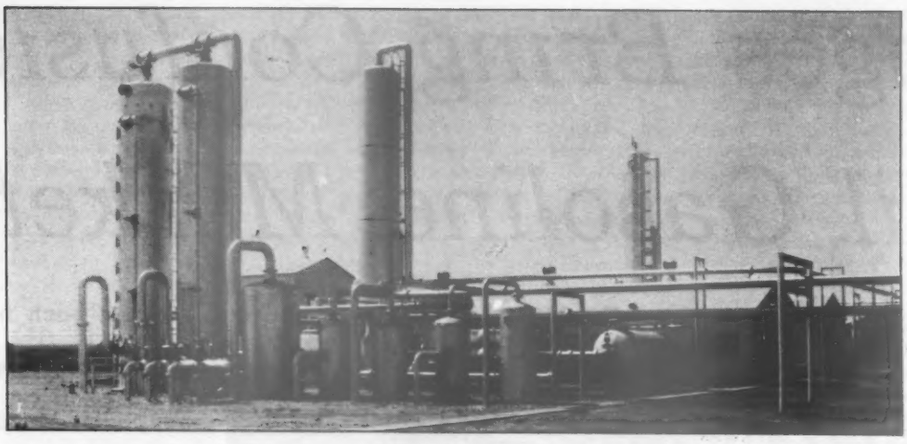


The more liberal use of tetraethyl lead among a large number of refiners and jobbers is reflected in these signs. The 13-cent price applies to a new leaded third-grade gasoline while the 14-cent sign is exhibited by a retailer who does not offer a third grade. Instead, he offers a higher-quality material at only a 1-cent differential. Note the small "Ethyl" sign and price



Absorber and still, with fractionator in background, at Skelly Oil Co.'s gasoline plant in Cunningham field

Pratt County, Kansas, Scene Of Revived Exploration

By DAL DALRYMPLE

THE recent flurry of activity in the Cunningham-Cairo area of Kingman and Pratt counties, where a gas field of major proportions is being developed, has attracted attention anew to that sector of western Kansas. This especially is true of Pratt County, which has caught the fancy of oil men who believe it will be the scene of a county-wide-development program when the current slump in Kansas operations ends.

Pratt County was all set for an intensive exploratory and drilling campaign in 1938-39, when loss of market due to field developments elsewhere put a damper on Kansas activity. Ellis and Russell counties to the north had been widely explored, with numerous oil pools being discovered. The play, following a leasing pattern that had been blocked some 10 years prior, extended southward into Barton, which soon became a major producing county. Stafford County, directly south of Barton and bordering Pratt on the north, was next in line, with Zenith and other pools being opened. There was every indication that the intensive exploratory campaign would continue southward into Pratt—and then the southern Illinois basin, with its shallow pay zones and close proximity to market, stole the show. Western Kansas suffered a slump as a result, and many of the leases were renewed for another 10 years or allowed to expire without drilling.

So Pratt County had to bide its time until that more favorable day when there would be a demand for its oil and gas and the leaseholders would be anxious to explore their acreage in quest of hidden reserves.

There are those who believe that day may come within the next year or two. Certainly, few Pratt County leases have been allowed to lapse and much of the acreage under lease in the county is held by oil companies and independent operators who have little or no production in Illinois. Such operators must find their production elsewhere, and to many observers it seems that Pratt County offers them excellent possibilities.

Already, there has been a revival of work in the eastern part of the county, where recent developments indicated the joining of the Cunningham and Cairo pools into one major gas and oil field.

The Cunningham pool, producing both oil and gas, is in Sections 19, 20, 29, 30 and 31-27-10w, Kingman County, and Sections 25, 26, 35 and 36-27-11w, Pratt County.

The Cairo pool, producing only gas, is in Sections 7 and 18-28-11w and Section 13-28-12w.

Early in August 1939, Skelly Oil Co. completed No. 1 Royse, C SW¼ Section 9-28-11w, for 1,110,000 cu. ft. of gas daily at total depth of 4,268 ft. This well, circled on the accompanying map, was hailed as the connecting link between the Cunningham and Cairo pools and opened up a wide territory to development. It is 1½ miles east of nearest Cairo production and 2¾ miles southwest of nearest Cunningham production. Wells recently completed in Sections 1 and 2-28-11w, extended Cunningham production southward and westward toward Cairo, giving further evidence that the two areas are producing from a common source.

Following completion of No. 1 Royse, Skelly Oil Co., the largest leaseholder and operator in both areas, started six new operations, and Sinclair Prairie Oil Co. and Drillers Gas Co. started one each. The Sinclair Prairie well in Section 1-28-11w, and the Skelly wells in Sections 26 and 36-27-11w, shown in circles on the map, were completed last week.

A Drilling Spree

Locations or wells drilling in the area at time of writing include: Skelly Oil Co.'s No. 1 Henry Steffan A, C NE¼ Section 31-27-10w, Kingman County; Skelly Oil Co. and others' No. 1 Steffan B, C SE¼ Section 36-27-11w; Skelly Oil Co.'s No. 3 C. J. Moore, C SW¼ Section 25-27-11w, and same company's No. 2 D. H. Krehbiel, CSL SE¼ Section 24-27-11w; Drillers Gas Co.'s No. 1 Gerber, center of an 80-acre tract, Section 35-27-11w, and Skelly Oil Co.'s No. 1 Crosley, CEL NE¼ Section 17-28-11w, all in Pratt County. The last-named well, southwest of the Royse extensioner, sounded the one sour note in recent reports. It was bottomed at 4,337 ft.; efforts to make it produce have been unsuccessful and operators were expected to abandon it.

Offsetting that one bad actor, were the following recent completions:

Well—	Location	Depth (ft.)	Yield (cu. ft.)
Skelly Oil Co.:			
No. 1 Harding	7-28-11w	4,283	802,000
No. 1 Royse	9-28-11w	4,268	1,110,000
No. 1 Fitzsimmons	35-27-11w	4,143	28,672,000
No. 1 Lakin	36-27-11w	4,068	21,450,000
No. 1 Allbritten	1-28-11w	4,212	29,867,000
No. 1 Sitton	26-27-11w	4,120	18,216,000
No. 1 McClellan	36-27-11w	4,165	51,980,000
Sinclair Prairie:			
No. 1 Allbritten	1-28-11w	4,170	28,500,000
Total initial yield of eight wells			180,597,000

In addition to the gas wells, all producing from Viola lime, the Skelly company recently completed No. 1 Maxedon, NE SW SE Section 25-27-11w, for daily potential of 772 bbl. of oil in Lansing lime at 3,402-58 ft.

Developed Carefully

The Cunningham pool has been one of the more scientifically operated oil and gas fields in the Mid-Continent area. It was opened in January, 1931, at Skelly Oil Co.'s No. 1 Miles, NE cor. Section 30-27-10w, Kingman County, producing 35 bbl. of oil daily initially from Lansing lime at 3,385-3,441 ft. When deepened to 3,464 ft. some months later, production increased to 355 bbl. of 36-gravity oil daily. Arbuckle-lime production was found in August 1932 at Skelly's No. 1 Leisman, C SE SW Section 20-27-10w. The Arbuckle was found at 4,093-4,175 ft., total depth 4,195 ft., and initial yield was 27,000,000 cu. ft. of gas and 5 bbl. of oil daily. About 2 years later No. 1 Leisman was plugged back to Viola lime at 3,922 ft. and recompleted for 52,000,000 cu. ft. of gas daily, giving the pool its third producing zone. Owned and developed exclusively until recently by one

operator, Skelly Oil Co., the field was developed slowly, conservatively and in keeping with best production methods. Due to reservoir pressure maintenance, it has been possible to keep nearly all oil wells flowing, with only two or three on the pump. Gas produced from Admire shale is used for repressuring.

Few, if any, areas in Kansas have tapped more formations that are productive of oil, gas, or both oil and gas than the Cunningham field. Gas is found in Admire shale at 2,150-2,200 ft. The principal gas reserve, however, is in deeper formations including Viola lime, Wilcox sand and Arbuckle lime at from 3,900 to 4,200 ft. Lansing-Kansas City lime produces both oil and gas.

Other formations in which gas showings have been found include: Herington dolomite, 1,525-30 ft.; Fort Riley lime, 1,635-50 ft.; Matfield shale, 1,780 ft.; Cottonwood lime, 2,005-25 ft.; Glen Rock lime, 2,133-2,142 ft.; Americus lime, 2,160-62 ft.; Wabaunsee group, 2,475 ft.; lime in Shawnee formation, 3,030-35 ft.

The deep-seated gas reserve is not well defined, only a comparatively few wells having been completed in it. The first seven wells drilled in the deep zone had total open flow of 330,810,000 cu ft., an average of 47 million cubic feet a well. The rock pressure of Viola-lime gas was 1,385 lb. Viola B.t.u. content averages 1,092 and the gasoline content about two-tenths of a gallon per thousand feet. Gas produced with oil from Lansing lime, as well as that from Admire shale, is injected into the oil formation. The gas is stripped of its gasoline content and a portion of it is sold to a pipe line, the remainder being recycled.

Open Cairo Area

The Cairo sector of the field was opened in 1937, when Skelly Oil Co.'s No. 1 Gilchrist, SE¼ Section 7-28-11w, found 10,000,000 cu. ft. of gas in Viola lime at 4,278 ft.

The productive gas area in the two sectors appears to be around 10,000 acres. Assuming a pay thickness of 25 ft., which is conservative, a porosity of 15 per cent, present shut-in pressure of 1,350 lb. and an assumed abandonment pressure of 300 lb., the Viola-lime gas reserve may be estimated at 101,773,000,000 cu. ft. This takes no account of large volumes of gas found in Wilcox and Arbuckle zones, producing wells drilled to those formations having been plugged back to Viola lime. Engineers estimate, however, that the total reserve in those two formations is at least one-half that of the Viola, making total estimated gas reserves in the three deep zones of about 150 billion cubic feet. That, then, makes the Cunningham-Cairo pool one of the larger gas reserves in the state and one in which the original high pressure still exists.

While not as impressive as the gas showing, the oil possibilities of the area cannot be overlooked. The September 1939 report of the Corporation Commission listed 37 producing oil wells, with total potential of 3,181 bbl. daily and net September allowable of 29,978 bbl. Cumulative oil production of the field to January 1, 1939, was 1,658,528 bbl. of 31 to 36-gravity oil. As the field seems to have been defined on the east and northeast in Kingman County, the bulk of future development probably will be to the west, south and southwest in Pratt County.

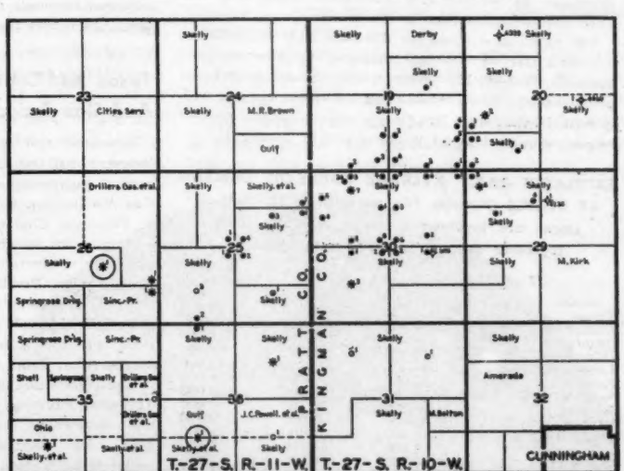
The Cities Service Co. recently contracted with the Skelly company to buy a large amount of gas from the field, to be run through an 8-in. pipe line now being laid from Cunningham to Hutchinson. That contract was expected to increase the daily output about 20,000,000 cu. ft. The Kansas Power & Light Co. also buys Cunningham gas.

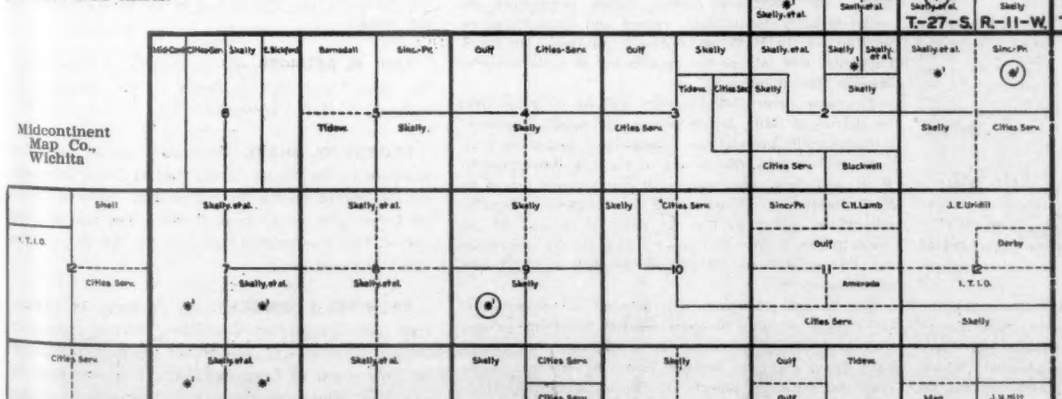
Plant Is Enlarged

The Skelly company has a modern gasoline plant located in the field, one of the largest in Kansas. It was constructed in 1934. It had daily capacity of 3,000 gal. of casing-head gasoline, and has been supplying about 4,000,000 cu. ft. of residue gas daily to the Kansas Power & Light Co. Plant improvements now are being added to the plant at an estimated cost of between $80,000 and $100,000. The additions include an 800-lb. absorber and a dehydrating plant, to be connected with the Cities Service line. Butane, propane, gasoline and commercial gases are made from natural gas produced in the field. Power is generated by the company's own plant.

Pratt County's first and, as yet, only exclusive oil pool was opened in October 1937 at Atlantic Refining Co. and others' No. 1 Runyon, SW NW NE Section 11-27-13w, about 4 miles north of the town of Pratt. It found Simpson dolomite at 4,292-4,300 ft., and had initial production of 397 bbl. of oil through 2½-in. tubing in 24 hours. It was drilled to Arbuckle lime at 4,393-4,437 ft., total depth, but found that formation dry and plugged back to 4,297 ft. There now are three wells in the Luka pool, with daily potential of 2,246 bbl. of oil and a September allowable of 1,422 bbl. A recent effort to extent the pool ½ mile southward met with failure when Atlantic Refining Co. and others' No. 1 Hacker, CWL SE SW Section 11-27-13w, had water in the hole and was abandoned at 4,364 ft., total depth. It had oil showings in Simpson dolomite topped at 4,355 ft. The pool has not been defined in other directions. Lease owners in the general area include the Atlantic, Cities Service, Skelly, Magnolia, and Ohio companies.

Several wildcats have been drilled in the county without success. Some of them found showings of oil or gas in Lansing and Viola limes, Simpson dolomite and other formations, but failed to develop commercial production. The failures have not discouraged operators nor condemned the county, for thousands of acres remain untested.





The Cunningham oil and gas pool in Township 27-10w and Township 27-11w and the Cairo gas area in Township 28-11w and Township 28-12w now are considered as one major field. Map shows intervening acreage

Novel First-Aid Contest Planned in Shreveport

SHREVEPORT, La. — Conducted under auspices of Lowe-McFarlane post of the American Legion and sponsored by the U. S. Bureau of Mines, the thirteenth annual first-aid contest, originated by the post, will be held at Shreveport, in the Municipal Auditorium, November 11, according to announcement by Louis Lyons, chairman, and Marion K. Smith, post commander.

The primary purpose of this contest, which is claiming national recognition, is to train teams in first-aid work, educate them in accident prevention, and generally promote greater interest in safety.

This annual contest is unique because it especially encourages the beginning of first-aid training everywhere through the award of a special prize to the best novice team entered. This novice team can have on it no member who previously has had first-aid contest experience.

Oil companies, gas companies, electric companies, utility or business firms interested in safety measures and accident prevention among employes, are invited to enter teams, either novice or experienced, or both.

Domestic Gasoline Estimate Is Six Per Cent Over Year Ago

The daily average supply of domestic crude oil estimated by the Bureau of Mines to meet the market demand in October 1939 is 3,590,300 bbl. This is 79,600 bbl. more than the estimated demand for September and 3.5 per cent more than the actual demand in October 1938.

Daily average crude-oil production and runs to stills during the 5 weeks July 29 to September 2 were 2,791,000 bbl. and 3,466,000 bbl., respectively. During this period total crude-oil stocks declined 31,840,000 bbl., the whole amount being in domestic stocks. The addition of this quantity, amounting to 910,000 bbl. daily, to the production indicates that the apparent demand for domestic crude oil during August was 3,701,000 bbl. daily. This was 180,000 bbl. in excess of the bureau's estimate and primarily reflected the larger crude runs to stills which were little affected by the production curtailment in August.

Many factors contribute to the uncertainty of the trend in October demand. In making comparisons it should be borne in mind that conditions were exceptionally favorable for both domestic and export demand in the fourth quarter of last year. All available information and forecast estimates received by the bureau indicate that there is no general expectation of substantially larger exports of either motor fuel or crude petroleum in October than those shown in the forecast.

The continuation of runs for the balance of the fourth quarter at the level indicated in the October forecast, in contrast to the usual seasonal decline, would go far towards meeting any unexpected demands that might arise. Gasoline stocks are unusually large and no substantial increase in such stocks during the coming quarter seems essential. Consequently, decreases in October and November might well balance the usual increase in December.

The trend of demand for distillate fuel oils indicates a substantial increase as compared to last year and suggests that yields from crude should exceed the usual seasonal level. Stocks of all fuel oils are unusually high in California but closely approximate a normal relationship to demand in areas east of California.

ESTIMATED DAILY AVERAGE CRUDE-OIL DEMAND BY STATES (Barrels). (As no changes in crude-oil stocks are involved in these estimates, they represent demand rather than production)

State—	Forecast— Oct. 1939	Forecast— Sept. 1939	Actual demand Oct. 1938
Texas	1,444,800	1,408,300	1,395,000
California	594,800	596,000	639,000
Oklahoma	424,200	429,300	545,000
Illinois	275,500	248,700	87,000
Louisiana	260,300	255,700	261,000
Kansas	170,600	166,300	154,000
New Mexico	114,200	108,700	102,000
Wyoming	69,000	70,700	66,000
Michigan	61,000	55,000	49,000
Pennsylvania	48,200	51,000	48,000
Arkansas	56,100	50,700	57,000
Montana	16,500	16,300	12,000
Kentucky	14,800	15,300	14,000
New York	13,200	14,000	13,000
West Virginia	10,000	10,000	8,000
Ohio	9,000	8,000	12,000
Indiana	4,200	3,000	3,000
Colorado	3,900	3,700	4,000
Total	3,590,300	3,510,700	3,469,000

Motor Fuel

Domestic demand.—The estimated domestic demand for motor fuel is 48,900,000 bbl., or about 6 per cent more than the actual demand in October 1938.

Exports.—Motor-fuel exports have been estimated as 4,500,000 bbl., or 500,000 bbl. more than the September forecast.

Stocks.—Stocks of finished and unfinished gasoline on July 31 amounted to 77,843,000 bbl. Statistics of the American Petroleum Institute indicate that they declined about 4,000,000 bbl. during August, which would bring them to approximately 73,800,000 bbl. as of August 31. The bureau estimates a reduction of 1,000,000 bbl. in finished gasoline stocks for October.

Gasoline production.—Benzol and direct sales of natural gasoline have been estimated at 1,300,000 bbl., making refinery production 51,100,000 bbl. This is distributed among the various districts as follows (thousands of barrels): East Coast, 6,430; Appalachian, 1,780; Indiana-Illinois, 9,260; Oklahoma, 3,210; Kansas, 2,640; Inland Texas, 3,820; Gulf Texas, 13,770; Gulf Louisiana, 1,570; Inland Louisiana-Arkansas, 900; Rocky Mountain, 1,230; California, 6,490.

Crude Petroleum

Runs to stills.—Natural gasoline to be blended at the refineries is estimated as 8.5 per cent of the total gasoline production, or 4,350,000 bbl. The yield of straight-run and cracked gasoline is estimated as 44.5 per cent. The application of this yield to the production of 46,750,000 bbl. gives crude runs of 105,000,000 bbl., or 3,387,100 bbl. daily. Foreign crude runs are estimated as 2,700,000 bbl.

Exports, fuel, and losses.—Exports of crude oil are estimated as 6,700,000 bbl. The estimate for fuel and losses is 2,300,000 bbl.

Total demand.—The total demand for domestic crude oil in October 1939, as indicated by the estimates above, is 111,300,000 bbl. or 3,590,000 bbl. daily.

Crude-oil demand by states.—The breakdown of the total estimated daily demand for domestic crude oil of 3,590,000 bbl. gives accompanying crude requirements by states of origin. As these requirements may be supplied either from stocks or from new production, contemplated withdrawals from crude-oil stocks must be deducted from the bureau's estimate of demand to determine the amount of new crude required. These estimates are not recommendations for production but present the projection of actual market trends.

Oil Bill Hearings Delayed

WASHINGTON, D. C., Sept. 26.—Chairman Cole announced hearings on the oil bill would be postponed until just before the end of the special session.

Texas Mid-Continent Oil And Gas Association

Economic and operating problems of the Texas oil industry will be discussed from every angle at the annual convention of the Texas Mid-Continent Oil and Gas Association, at Houston, October 5 to 7, according to President Charles P. McGaha.

Among the speakers will be Dr. Homer P. Rainey, president, University of Texas; Senator Carl A. Hatch, New Mexico; President McGaha and R. B. Anderson, counsel, Waggoner Refining Co.

The Houston Wildcats, hosts to the oil men and their wives, are completing plans for entertainment at the River Oaks Country Club.

The convention will be called to order at 9:45 a.m., Thursday morning, at the Rice Hotel. Reports of various committees will follow President McGaha's address, with Raymond Myers, Dallas, presenting the social security committee's report and Paul Pitzer reporting for the theft prevention committee. Orville S. Carpenter will talk on the application of social security laws to the oil industry.

Thursday afternoon's session will be presided over by George A. Hill, Jr., Houston. McDonald Meachum, Houston, will present the nominating committee's report, followed by the report of the tax committee by R. B. Anderson, the wage-hour committee's report by F. T. Baldwin of Houston and the forms-simplification committee report by Guy L. Tate, of Dallas. An address by Dr. Homer P. Rainey will close the afternoon. Dr. Rainey will be introduced by Maj. J. R. Parten, of Houston.

Ken Regan, Houston, will preside as chairman of the Friday morning business session, featuring presentation of distinguished-service awards to two prominent Texas oil men. Senator Hatch is expected to discuss the national aspects of the oil industry. E. L. Smith, of Dallas, will make the report for the membership committee.

Hugh L. Stone, Houston, will be chairman of the Friday afternoon business session, devoted to taxation. Judge Guy C. Jackson, Jr., of Chambers County, will discuss ad valorem taxes and their relationship to local government. Other speakers will be State Comptroller George H. Sheppard and Curtis Morris, tax director of the East Texas Chamber of Commerce.

THE MARKETS*

CRUDE OIL: Purchasers in Van Buren, Allegan, and Kent counties in southwestern Michigan posted 7-cent increase. Central Michigan fields not yet affected. First price advance was announced by Commonwealth Pipe Line Co. on September 22, followed by Tri-Lakes, Imperial, and Naph-Sol. Market firm and expected to continue so if production is kept in balance with actual demand.

REFINERY: All products firm in areas east of California, with lubricating oils and wax particularly vigorous, owing largely to export demand. Gasoline up in some areas, and higher tank-wagon prices in others would be signal for tank-car advances. Material in the lower Mid-Continent that normally would move northward is going to the Gulf. Gulf Coast demand for naturals is strong.

TANK WAGON AND POSTED DEALER: Standard of Kentucky advanced tank-wagon and dealer prices of gasoline in Georgia, Alabama, Mississippi, and Florida, and kerosene prices in most of the same states. Socony-Vacuum advanced kerosene in all its territory except western New York. Standard of Louisiana advanced consumer tank-wagon and dealer tank-wagon gasoline in Louisiana and Tennessee.

FINANCIAL: Oils adhered pretty closely to the pattern of the general market, some issues closing near their 1939 highs. South Penn touched a new high. Average of 30 representative stocks for week ending September 23: High, 29.97; low, 27.92; close, 29.42. Week ending September 16: High, 30.86; low, 28.64; close, 29.20.

*Detailed information in market section.

DEATHS

CLARENCE A. KELLER, 78, pioneer driller, and long-time employe of Sinclair Prairie Oil Co., died in Tulsa last week.

PHIL STUART, 67, president, Phillane Oil Co., active in the Greater Seminole field, died at Shawnee, Okla., September 25.

RAYMOND R. CROWE, 61, local manager, United Natural Gas Co. for 24 years, died at his home in Bradford, Pa., September 19.

JOHN W. WILLIAMS, 59, production superintendent for Barnsdall Oil Co., died in a Wichita Falls, Tex., hospital last week.

PAUL M. BALSIGER, 40, oil operator of Foster Brook, Pa., was found shot to death in his automobile at Salamanca, N. Y., September 16.

GEORGE W. SHADE, 76, widely known in the oil business in the Middle West, died in Tulsa September 20. He worked on the first oil well to "blow in" in the old Lima, Ohio, field, about 55 years ago, and was connected with the Indiana Pipe Line Co. for 35 years, retiring 12 years ago.

RAYMOND J. SHEEHAN, 42, president of Sheehan Pipe Line Construction Co., Tulsa, died of a heart attack at Houston, Tex., September 19. Born in Bradford, Pa., he moved to Tulsa in 1914 to join his father, the late John Sheehan, in the pipe-line-construction business. He enlisted in the U. S. Army in 1917, serving overseas with the Twenty-third Engineers. On his return in 1922 he joined his brother, John B. Sheehan, in the Sheehan company.

War Demands Not Yet Felt by Refiners on Gulf Coast

By NEIL WILLIAMS

HOUSTON, Tex., Sept. 25.—Although the refinery market situation on the Gulf Coast apparently faces no immediate danger of slipping, with all prices strong and materials generally scarce, sellers this week are beginning to wonder about the anticipated new war demand which, so far, has not materialized. All quotations are being maintained firmly, and, so far as aviation gasoline, motor fuel, burning oils and fuel oils are concerned there is very little material that can be obtained at these higher prices; but there is now some question as to how long the present market structure can hold out with continued lack of new sales.

Movement of oil to neutral countries is not affected by the war and a substantial volume of this oil is going out of Gulf Coast ports. Ships of neutral countries, going to neutral ports, with their papers in good order, have little to fear. The movement, however, is largely on contracts and sales made prior to the opening of the war. Larger Gulf Coast refiners are receiving a fair run of inquiries from neutral countries, but actual new business is limited. This may be due either to the fact the refiners themselves are hesitant on making commitments, having very little available material to offer, or their quotations are being maintained at a level higher than buyers of those countries are willing to pay.

During the past 10 days three English and French tankers loaded out of Gulf Coast ports. It is reported the captains themselves did not know their respective destinations. They sailed with sealed orders which they were not to open until they reached a designated point at sea. It is assumed that at that point a convoy would be waiting. This would indicate the French and English governments are putting into operation some plan for safeguarding the transportation of oil from this country, and if so, increased demand and movement of oil to those countries may be expected shortly.

From a price standpoint there has been little change in Gulf Coast markets the past week, outside of the advance in postings of Bunker C fuel and diesel oil in bunkers. The former is now priced at 90 cents, with diesel bunkers at $1.55; fuel and burning oils generally are being benefited by a good domestic demand, which has placed them in an unusually strong position that is expected to be maintained, although slightly more material seems available than during the preceding week.

Seven cents continued the asking price for 68-70 octane motor fuel for export movement, and in some instances for cargoes to the Atlantic seaboard. No important sales at that price were reported, the quotation being largely nominal, with would-be buyers apparently not anxious to place orders at that figure. Several important sellers still were out of the market, and others could just as well have quoted higher. Other grades were held at correspondingly high levels.

Kerosenes showed increasing strength at 4½ cents with no material offered. Some sellers are having difficulty in supplying previous commitments, due to the extra tight situation.

Further strengthening of coastal lubricating-oil stocks was another feature. The display of life in these products, so long inactive except for routine movement, is being reflected by advancing quotations. Domestic buyers continued to try to fill anticipated requirements in advance of expected higher prices.

At a hearing in Austin Plymouth Oil Co. officials testified the firm had been offered contracts by the French Raffinage Oil Co. and British American Co., a Canadian corporation, and the company needed an increased allowable in the Plymouth and East White Point fields of San Patricio County to supply the demand.

Inability to Obtain Bottoms Hampers Trade With European Countries

By H. STANLEY NORMAN

NEW YORK, Sept. 26.—Tardy development of wartime-scale petroleum trade with European countries appears to be because suppliers and purchasers alike are unable to obtain tankers for trans-Atlantic voyages. Inability to obtain boats is traceable to regulations in this and other neutral countries—principally the Scandinavian nations—and to the reluctance of American flag tanker owners to risk their vessels and cargoes in dangerous waters. Although direct confirmation was unavailable, it was developed in New York last week that most of the American oil companies with marketing subsidiaries or contract customers in Great Britain and France are not only continuing normal deliveries, but are actually moving greater volumes of crude and products than before the start of hostilities. The increase on the part of those companies operating their own tankers, either under the American flag or that of other nations, is insufficient, according to reports here, to offset the loss of Norwegian boat capacity and in vessels functioning on a spot charter basis.

The U. S. Martime Commission has issued a regulation prohibiting the chartering of American boats to aliens without approval from Washington.

Captains in charge of coastwise tankers were reported in New York to be required to make affidavit when loading at Gulf Coast ports swearing that the cargo was to be discharged at the port of declaration.

Only one boat has been reported in New York shipping circles chartered for a voyage to one of the belligerent nations since the war was declared. The boat was chartered for October loading of a cargo of light crude oil on the Gulf next month and delivery at Havre, France. The rate paid was $15 per ton with the owner paying crew bonuses and war-risk rates.

The tanker rate between the Gulf Coast and North Atlantic ports currently ranges from 28 to 30 cents per barrel.

The current rate to neutral European countries is about $5 per ton with the charterer paying bonuses and war-risk insurance.

Tankers at Port Arthur. Note American flag painted on sides of ships for protection against attack

LOUISIANA

LOUISIANA'S DAILY ALLOWABLE oil production, effective October 1, will be 258,504 bbl., an increase of 23,029 bbl. over the September quota.

The proration order, signed by Ernest S. Clements, Louisiana conservation commissioner, and D. B. McConnell, director of the department's Minerals Division, set the South Louisiana allowable at 192,722 bbl. daily, as compared with 172,987 bbl. in September, and the North Louisiana allowable at 65,782 bbl., as compared with 62,488 bbl. for September.

TEXAS

ALLOWABLE PRODUCTION IN TEXAS during October will be about 1,384,000 bbl. daily, Railroad Commission officials estimate, setting daily production about 60,000 bbl. under the Bureau of Mines consumer-demand estimate of 1,444,800 bbl. Despite the increased production of East Texas, necessitated to meet federal court injunctions, commission officials announced allowables would be kept below the Bureau of Mines figure by: (1) Cutting back the allowables of all new fields to the basis of the nearest comparable field. (2) Cutting back to the amount they are able to actually produce all wells carried on the schedule at a minimum which are not able to make that minimum. (3) Eliminating the Saturday and Sunday shutdowns in all fields except East Texas and distributing the former 5-day production over 7 days, thereby eliminating all shutdown exemptions.

The commission also issued an order adding the last Saturday of this month, September 30, to the list of shutdown days. The commission's June 19 order provided for only eight shutdown days in September, but in order to assure conservative production during the month the ninth day was added. A hearing to establish the November allowable was set for October 17 at Austin.

Some difficulty is expected in returning to a 7-day production week during October. In the Panhandle it will be necessary that the allowable be raised about 2,000 bbl. daily in order to comply with the commission's interpretation of the marginal-well law. In K.M.A. the problem to be worked out consists of maintaining a balance between 10-acre and 20-acre units. Under its present order 20-acre-tract wells are allowed 32 bbl. and 10-acre wells 23.5 bbl. By reverting to 7-day production the 20-acre wells would be cut to around 23 bbl., and the 10-acre wells to less than 17 bbl. The commission has followed the policy of not cutting any Class 2 well below 20 bbl. per day, if it can make it, in which case there would be only 3 bbl. difference between a well on 20 acres and a well on 10 acres.

REDUCTIONS IN FIELD ALLOWABLES which the commission is making, and in some instances has placed in effect, as outlined above, affect the various districts as shown in the following table. The first column shows the reductions attributed to cutting back the allowable of new fields, and the second the reductions made by lowering the production of wells in accordance with their ability to produce.

	Dist.	Bbl.	Bbl.
Southwest Texas	1	61	1,695
Southwest Texas	2	1,261	517
Gulf Coast	3	60	5,576
Southwest Texas	4	4,113	6,125
East Central Texas	6	225	1,828
West Central Texas	7	3,067	696
West Central Texas	7-C	90	1,827
West Texas	8	380	11,867
North Texas	9	5,038	6,409
Panhandle	10	....	913

NEW LAND LAWS PLACED IN EFFECT last week resulted in the Land Commission receiving numerous applications to purchase or lease vacancies. Nine applications from good-faith claimants to purchase vacancies and 28 mineral-prospect-permit applications were recorded. New measures designed to curb vacancy racketeering and to safeguard the public school land and the revenue coming to the state were placed in effect on September 20, ending the moratorium measure passed by the legislature to hold up all selling and leasing of school lands until the law was revised. The revised law sets up a new procedure for the acquisition of vacancies and gives good-faith landowners a preference right to purchase vacancies in their holdings. It also creates a new state school-land board, composed of the land commissioner, governor and attorney general, the board to govern all land sales and leases.

CHARLES L. ORR, of Holdenville, Okla., appointed secretary of the Interstate Oil Compact Commission in succession to Art L. Walker, resigned, was appointed attorney for the Oklahoma compact staff by Gov. Leon C. Phillips, on entering office. A native of Waxahachie, Tex., Mr. Orr moved with his parents to Indian Territory in 1904. Graduate of the University of Oklahoma in 1914, he played on the Oklahoma University football team of 1913, on the basketball team and as captain of the Sooner baseball team. He began law practice at Ada and in 1920 removed to Holdenville

RAILROAD COMMISSIONER JERRY SADLER, interviewed in Washington after a conference with Secretary of the Interior Harold Ickes, said that he was confident that any threat of federal control over oil production was removed.

"Everything is all right as long as we stay under the market-demand estimates set right here in this department," commented Mr. Sadler, "and Texas is doing that."

The commissioner said that Mr. Ickes had been under the impression that the increase of 100,000 bbl. daily allowed recently by the Railroad Commission for the East Texas field would make Texas production exceed the market-demand estimates.

"He was satisfied," the commissioner said, "when we explained that the increase would not put us over the estimate because we are operating on a 5-day week. In addition, there were two extra days this month when our wells were shut down. I am confident there won't be any further agitation for federal control."

HEARING NOTICES ISSUED last week included setting of a hearing for October 2 on the Northwest field of Scurry County to determine whether a permit should be granted for making a 10-day test on wells in that field, and whether wells should be granted an increased allowable. Hearing on September 30 for the purpose of determining whether allowables should be increased was set for the Gulf-McElroy, Church, Waddell, Goldsmith, North Ward, Estes, and Keystone (lime) fields of West Texas. On September 29 hearings for the same purpose will be held on the Dean pool of Cochran County and on the Panhandle field.

DRILLING PERMITS approved by the Railroad Commission last week greatly increased. A total of 221 permits were issued, or 103 more than in the previous week. Southwest Texas received the greatest number, 57 permits; West Texas was second with 54, including 12 in Yoakum, 10 in Ector and 10 in Pecos County; and Gulf Coast third with 43 new locations. In North Texas 33 permits were granted. East Central Texas operators were granted 11 permits and the East Texas field two. Panhandle producers were granted five permits and West Central Texas 16.

STATE CAPITALS

ILLINOIS

THE ILLINOIS OIL PRODUCERS Equity Association is being organized, according to a statement of Dorsey Hager, consulting geologist of Centralia. "The new association was engendered," Mr. Hager said, "by the demand of oil producers who feel that existing oil organizations within the state are not representative of true Illinois needs. They are too closely tied with outside organizations which have their principal interests in states other than Illinois to guarantee that equity will be accorded Illinois oil men."

MICHIGAN

ORGANIZATION OF A MICHIGAN OIL landowners association for oil-marketing and legislative purposes is reported under way. The cooperative plan, according to Hale Tennant of Benton Harbor, former Michigan State College marketing specialist, has three objectives: Revision of oil-control laws to protect interests of landowners, elimination of the "middleman" engaged in oil-lease speculation and location of oil-producing anticlines and development of new fields.

Mr. Tennant said the organization plans to engage a geologist and to drill for oil an a "checkerboard" basis. It is proposed to make the association a federation of local units and to enlist aid of State College and the University of Michigan in making geological studies.

CALIFORNIA

MAURICE E. ATKINSON, AUTHOR of the oil control bill, petitioned the State Supreme Court last week for a writ of mandate to prevent the referendum against the bill from going on the ballot on the November 7 special election. Mr. Atkinson's action was directed against Secretary of State Jordan and the registrars of 12 counties. He asked a withdrawal of Mr. Jordan's action in certifying petitions calling for the referendum and sought to prevent county registrars from submitting the bill to vote. The petitioner contended that part of the 95,125 signatures certified by Registrar W. M. Kerr of Los Angeles were invalid, and that if only the valid ones were counted there was not a sufficient number to meet requirements for a referendum. He also charged irregularities in obtaining signatures in 11 other counties, Contra, Costa, Kings, Madera, Marin, Orange, Placer, San Bernardino, San Diego, San Joaquin, San Mateo, and Santa Barbara. One company is claimed to have photostatic copies of every page of every petition that has been filed and has investigators interviewing as many signators as possible.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

No Excuse

Reports persist in sources that should know that Washington looks with favor on a wide extension of federal control the moment a suitable excuse presents itself.

Oil is named prominently among the industries which will be brought within the direct supervision of official Washington.

The war and the public-utility phases of the oil industry's service to consumers presumably will be the excuses offered for this federal action.

The Government has accumulated in recent years plenty of testimony in its files to show there is no basis for this action. The T.N.E.C. investigation, which is now under way, will amplify this previous testimony and bring all phases up to date. Many leaders of the industry have spent months this summer in gathering data and preparing testimony for this hearing.

Every question pertinent to every phase of the industry's operations will be answered adequately for anyone who approaches the purpose of the T.N.E.C. hearing with an open mind.

This should be sufficient, but it may not be. Emotionalism incidental to war can force through a confused Congress matters which would not receive serious consideration otherwise.

The danger is that opportunity may be taken to fasten on the oil industry, and all other industries, shackles of federal control which will not be removed when the so-called emergency has passed.

Against the pretense that the industry must be placed under federal control for national defense there is the expert testimony given by James A. Moffett, who was secretary of the National Petroleum War Service Committee in the World War. Mr. Moffett says:

"I want to make it clear that the American petroleum industry was a self-governing industry throughout this period. Everything was done voluntarily on their part.

"In December 1917 the Government decided to appoint Mark L. Requa, director of the Petroleum Division of the United States Fuel Administration, to control the petroleum industry. He continued to allow the National War Service Committee to function as they had in the past 9 months and his effort was to help from a government standpoint, rather than to dictate or interfere in the operation. When the Armistice occurred the industry had met every call upon it."

There was no profiteering in the oil industry, no shortage of supply; yet at the same time the industry was taking care of the requirements of its regular customers at home, who had increased rapidly in number.

Contrast the successful efforts of the oil industry during the World War with the plight of the railroads under government operation, and their condition when returned to private operation with many of the wartime regulations which have never been lifted.

While the supplying of oil in war is important, it represents a very small part of the industry's service. The biggest job of the petroleum industry in this country is to furnish motor fuel for the more than 30,000,000 registered vehicles and millions of owners of other types of internal-combustion engines, oil burners and hundreds of other outlets.

The oil industry has furnished its services cheaply and better, without an important complaint from its customers. It has assured facilities to continue to do so for an indefinite period. But it needs to be on the alert everywhere to see that any temporary emergency, which can be adequately met by the industry, is not used as an excuse for regimentation of its operations, with resulting disaster to itself and millions of petroleum consumers.

Marginal-Well Law To Be Challenged in Court

Large operators oppose new order, and plans are brewing to attack it in federal court on basis that increased allowable causes waste

By D. H. STORMONT

AUSTIN, Tex., Sept. 25.—Attack upon the method of allocating production in the East Texas field, involving constitutionality of the marginal-well law and its interpretation, is expected to be renewed in the near future. Several of the field's largest operators have expressed opposition to the new order; and at least one major company is making definite plans to take the matter into federal court. They feel that undue drainage of their tracts is still permitted under the Railroad Commission's September 11 proration order; that raising of the field's top allowable is causing physical waste; and that application of the new order is preventing them from producing the share of oil to which they are entitled on a reserve basis.

The new order followed federal court injunctions granted Rowan & Nichols Oil Co. and Humble Oil & Refining Co., which in effect required that recoverable reserve be included in the plan. Since the commission's policy has been not to cut any well below 20 bbl. daily if it was capable of making that amount, basing such action upon the marginal-well law, the top allowable for the East Texas field was raised. Otherwise, requirements of the federal court orders could not be met; for, if acreage was included and the former top allowable of 523,900 bbl. maintained, daily allowables of the small-tract wells would be greatly reduced. By raising the top allowable to 690,000 bbl. daily, however, it was possible to give all better-than-marginal wells their 20-bbl. marginal, and, in addition, distribute some remaining 176,500 bbl. in accordance with its new proration plan.

Controversial questions are whether the marginal-well law has been superseded by conservation statutes passed subsequent to its enactment; and, if application of the marginal-well law to the East Texas field is causing physical waste, whether the law should be discarded. The duty enjoined on the Railroad Commission by the general conservation statutes is to prevent physical waste. If adherence to the 20-bbl. marginal results in raising the top allowable above the figure set out as the maximum rate of withdrawal conducive to highest ultimate recovery, then one of the two must fail.

The marginal-well law specifically provides, according to the commission's interpretation, that pumping wells of certain depths be given a minimum allowable below which the commission may not reduce, i.e., pumping wells of 2,000 ft. or less in depth, 10 bbl.; from depths of 2,000 to 4,000 ft., 20 bbl. daily, etc. In the East Texas field there are only some 450 marginal wells pumping an average of 5,500 bbl. daily so that, in reality, the production of these statutory marginal wells is of little importance in the general proration scheme. Thus, the problem reverts to whether a well of high productivity, drilled on a very small tract, should be prorated to a level with or below a marginal or submarginal well. The commission has followed the policy of not doing this; basing its action on the marginal-well statute, and thereby applying the statute to both marginal and non-marginal wells.

Two schools of thought exist as to whether the commission has the authority to regulate the production of marginal wells. One is that it does not have the authority to do so since the marginal-well law specifically sets these wells aside. The commission is created by the legislature and its powers specifically delegated, beyond which the commission may not go. Since the marginal-well statute sets this type of well outside of the commission's power, the commission cannot exercise any control over them even though waste exists. The opposite opinion is that, by virtue of the police powers invested in the state through the conservation statutes, the commission by general delegation of authority has the power to promulgate orders, even though they may be in conflict with the marginal-well law, if necessary to prevent waste.

Attorney Attacks Statute

In this connection, Guy Woodward, attorney for Stanolind Oil & Gas Co., in a statement at the recent statewide proration hearing, condemned the marginal-well statute, stating, "Any application of Art. 6049b (the marginal-well statute) to the allocation of oil in the East Texas field in accordance with its language or what the commission interprets its language to mean is . . . a taking of property without due process of law, in violation of the fourteenth amendment of the Constitution of the United States and in violation of the Texas Constitution. . . . The application heretofore given by this commission in arbitrarily allocating 20 bbl. per day to wells, without regard to facts except depth of the well, is an unconstitutional application of said statute."

He further protested the commission applying the statute to the allocation of the allowable in the East Texas field because its application caused physical waste; and that the statute was expressly and impliedly repealed by other conservation statutes of the state, which had been enacted since the marginal-well statute was passed.

Several significant statements as to the legality of the statute were made by Federal Judge R. J. McMillan in his opinion in the Rowan & Nichols suit; in substance, " . . . that in an effort to extenuate the inequality of their order (the commission) suggests the difficulty presented by the marginal-well law. . . . Their position with regard to this matter is equivocal."

"If it be conceded that the statute is valid, which has been seriously questioned, and that these strictly marginal wells must be allowed 20 bbl. per day, if they can make it, still that furnishes no excuse for confiscating the property of some other producer better situated. Pumping wells of this variety might appear in a field to such an extent as to exhaust the entire allowable; thereby leaving nothing for higher-potential flowing wells. No such absurd result was ever intended. This statute was obviously designed to keep these small pumpers from being slighted off; it being contemplated that the better wells would have a much higher allowable. If, however, this marginal minimum must be considered a component element of a proration scheme, thereby unreasonably reducing the allowables of other better wells, either the statute or the scheme must fail."

One legislator who took part in the formulation of the marginal-well statute, when interviewed, stated that its originators had intended it merely as a curb for administrative bodies and to protect pumping wells from being curtailed so low as to cause their abandonment. He pointed out that existing conditions of today, insofar as the large number of wells and low per-well allowables were concerned, were undreamed of at that time; also that legislators had relatively meager knowledge of conservation as it exists today. In his opinion, the prime thing to be considered is conservation, with everything else swept aside in order to accomplish this purpose. He felt there is ample authority in the general conservation statutes to prevent waste of oil above or below ground.

The commission at present is faced with the problem of curtailing statewide allowables below the figure recommended by the Bureau of Mines. Applying the marginal-well law to all wells in East Texas in its new production order resulted in raising that field's average daily allowable some 56,000 bbl. To offset this increase, the commission is planning to return all fields, except East Texas, to a 7-day production week, thereby reducing the effect of Saturday and Sunday shutdown exemptions on the average daily production; also, by reducing the allowables of new fields and by reducing the allowables of wells unable to make their allowable to the amount they can actually produce.

In returning to the 7-day week, however, the commission, by applying the marginal-well limit to all wells, is faced in some fields with a problem similar to that in East Texas. For example, in the K.M.A. field of North Texas, where the allowable is allocated on a per-well and acreage basis, wells on a 20-acre unit have been receiving 32 bbl. daily and those on 10-acre tracts 23.5 bbl., excluding all shutdowns. On a 7-day-week basis, daily production of a 20-acre unit would be about 23 bbl. daily, but wells on a 10-acre tract would receive less than 17 bbl. Thus by applying the marginal-well requirement, the 10-acre unit wells will receive the minimum of 20 bbl., which would be only 3 bbl. less than a well on a 10-acre unit.

Battle Impends As Neutrality Policy Comes Up for Study

By HENRY D. RALPH

WASHINGTON, D. C., Sept. 25.—Prohibition of shipment of American petroleum in American flag tankers to nations at war probably will be voted by Congress in the near future.

The "cash and carry" plan for preserving American neutrality has received strong endorsement in Congress and throughout the country since President Roosevelt called the special session, and is expected to be voted regardless of what Congress does with the president's request to repeal the present arms embargo. The law, of course, would apply to commodities of all types and to all American flag vessels; and at present there is no consideration of proposals heard a year or two ago to class petroleum as a munition of war, or to be singled out for special treatment.

Plans now being perfected by congressional leaders call for a bill substantially renewing the section of the neutrality law which expired May 1, 1939; but in even tighter language and with more drastic penalties. This expired section prohibited the shipment to any belligerent nation of "any articles or materials whatever until all right, title and interest therein shall have been transferred to some foreign government, agency, institution, association, partnership, corporation, or national." In plain language, this means nothing could be shipped from the United States for delivery in a nation at war until it was bought and paid for in full. The object is to make it certain that no American citizen or corporation will suffer any loss through the destruction of goods sold to a belligerent.

The big fight in Congress will be over President Roosevelt's request for repeal of the present embargo on shipment of arms, ammunition, or implements of war to belligerents. This provision does not affect the oil industry, since the neutrality law provides the president may not class raw materials with munitions. Sizable blocks in both the Senate and the House are opposed to removing this embargo; but there appears to be overwhelming support for applying the cash-and-carry system to exports of all kinds to belligerents.

IN his special message to Congress September 21, President Roosevelt will not specifically ask for cash-and-carry legislation; although he declared this should be a part of the neutrality policy of the United States. He declared that this and other features of the neutrality policy could be handled by administrative order, rather than by statute, but he left the way open for Congress to decide what method should be used. The present temper of Congress is against leaving such matters to executive discretion, and the prospects are for enacting a strict and detailed cash-and-carry neutrality law.

The President did not mention the fact that petroleum products are on the contraband lists of both England and Germany, but he did point out that the danger of this country's involvement in war is as great if we ship uncompleted implements of war and other kinds of material and supplies as it is if we ship the actual munitions listed in the neutrality act.

In addition to the repeal of the arms embargo the president declared in his message that other phases of policy reinforcing American safety should be considered. He declared that American merchant vessels should, as far as possible, be restricted from entering danger zones; American citizens should be prevented from traveling on belligerent vessels, or in danger areas; the foreign buyer should be required to take transfer of title in this country to commodities purchased by belligerents; the extension of war credits to belligerents should be prevented; collection of funds in this country for belligerents should be regulated; a license system should be maintained covering import and export of arms covering implements of war. The last two points are adequately covered by existing legislation, and while the president indicated a preference for executive discretion in dealing with others, he declared: "The Congress, of course, should make its own choice of the method by which these safe-guards are to be obtained, so long as the method chosen will meet the needs of new and changing day-to-day situations and dangers."

PROBABLY the only discretion Congress will give the president in these matters is to define areas of the ocean subject to hostile naval actions and therefore barred to American ships. Such a prohibition undoubtedly will be a serious handicap to American oil exporters in serving their foreign customers in neutral countries. Not only would American tankers be barred completely from all trade with Germany, France, and the British empire, but they would also be prohibited from going to neutral ports through areas of the ocean reported to be mined or the scene of submarine or other naval controls. At present, this would undoubtedly prevent American tankers from entering the Baltic Sea at all, and probably also the North Sea and the English Channel, so that there would be little if any traffic with Belgium, Holland, the Scandanavian countries, and the Irish Free State. Should naval operations extend to the Mediterranean, it is quite possible that such a prohibition would prevent tankers entering the Mediterranean Sea at all or from going to ports in Spain, Portugal, and North Africa. In that case, shipments of American petroleum products to neutral ports surrounded by waters designated as dangerous could be made only in tank ships flying a foreign flag.

Petroleum sales to Canada would not be so seriously affected if the new law follows the provisions of the cash-and-carry section of the act which expired in May, for this permitted the president to grant exceptions for exports over land boundaries or inland lakes and waterways. Since Canada is a belligerent, the proposed law probably would prohibit shipment of petroleum to that country by ocean tankers of American registry and might prohibit the sale of oil to Canadian companies except on a cash basis; but probably would not prevent shipment to Canada by rail or pipe line or via the Great Lakes.

Some members of Congress are advocating repeal of all neutrality legislation and a return to international law under which Americans could carry on any sort of trade with belligerents at their own risk, but the great majority of opinion seems to favor a specific cash-and-carry law, whether or not coupled with the president's request for repeal of the arms embargo.

Oil Outlook Promising

THE petroleum and natural-gas industry, contrary to the general trend, will continue for a decade or more to provide increasing employment opportunities in spite of technological improvements which have trebled the output per man in the past 20 years, a study conducted by the W.P.A. national research project finds.

The report, entitled "Technology, Employment and Output per Man in Petroleum and Natural-Gas Production," asserts that all indications point to steadily increasing fuel demands for many years to come. In addition, invention and improved production techniques serve constantly to reveal new uses for, and byproducts of, petroleum and natural gas. These create new industrial demands, which, in turn, create new demands for labor. This expanding technology is not expected to abate, nor even to become static, within the next 10 or 15 years at the least.

"Contrary to the outlook for most of the other extractive industries," it is stated, "it is expected that overall employment opportunities in oil and gas production probably will increase for the next decade and a half, although the manpower requirements of the different divisions of the industry will vary. The upward trend in employment at oil and gas wells—characteristic of developments until 1929—has been resumed and probably will continue for the next 10 or 15 years . . ."

The known supplies of petroleum, coupled with the technological improvements which make a greater proportion of the supply recoverable, indicate, the report says, a continued healthy existence for the industry. This is further substantiated by the prospect of an increasing demand for both gasoline and natural gas as fuels, and for the many petroleum byproducts developed in the research laboratory.

"Both short and long-time outlooks indicate that additional workers will be required in the petroleum and natural-gas industry," the report concludes. "The increase will follow in part the expected continued growth of demand for motor fuel and lubricants, and in part to other factors, such as the shortening of the standard workweek, tending to counterbalance a continued increase in output per man-hour owing to improved technology. For the next decade and a half, the prospects appear fairly clear."

POGUE

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industry problem instead of one that concerned the public interest. The solution to this problem appears to me to lie in the development of a keener appreciation of the functional aspect of prices on the part of buyers and producers alike.

A burden that has fallen upon all producers alike, large and small, is represented by the large amounts of capital required to finance delayed production. A large capital requirement is inevitable under any form of delayed production, but the problem has been aggravated in the past few years by the failure of the regulatory bodies to adapt their allocation formulas adequately to scientific principles; by cheap and redundant credit; and by the crude-oil price level itself.

Under proration, it seems to me, crude oil is readily available to all refiners in a physical sense, for the system permits a response to demand, but profits at any given time are not evenly available. If the conservation aspect of proration results in greater recoveries and thus creates a larger and more even supply of crude, then this aspect is of advantage to the refiner. If proration is accompanied by a narrowing refiner's margin, as has for a time been the case (to which many factors are contributory), then this circumstance is harmful to the profits of low-cost plants and critical to high-cost units, although the latter suffer in the unregulated cycle also.

The profitability of the marketing system in oil depends not upon price levels but upon price margins—the differentials existing between wholesale, intermediate, and retail prices. Of these differentials the wholesaler's margin between the refiner and the dealer, and the retailer's margin between the dealer and the consumer, are the most important. The size of these margins is determined primarily by the interplay of competitive force operating within the marketing zone, and it is not clear that the nature of the crude-oil supply has any essential bearing upon this matter. Wholesale and retail margins were quite large in the early twenties, as was necessary to induce the extensive development of the marketing system to meet the rapidly rising demand. The momentum of expansion carried the construction of facilities beyond economic limits and in the late twenties margins began to narrow, contracting sharply in the depression and undergoing a modest increase in the subsequent recovery. There are too many units engaged in marketing to thrive except under relatively large margins, and yet the overcrowding gives rise to competitive forces that operate in the opposite direction. It is not surprising, therefore, that pressure has been exerted to expand margins and through legislation sustain the high-cost units.

Jobber groups, under the influence of this complex situation, have made attacks upon the proration mechanism as the imputed source of their troubles. Because uncontrolled production and mounting demand characterized the era when wide margins were established, it is perhaps natural to look to restricted production as the cause of unsatisfactory margins. This conclusion, however, seems to me to be in error, for overcrowding in this field is the result of preexisting wide margins and this congestion now renders wider margins unattainable in the presence of competition, with the present status of production having little to do with the underlying economic forces at work. This condition, too, has been aggravated by structural changes in the marketing mechanism brought about by the petroleum code and subsequent legal and legislative actions. It is also probable that the virtual dissociation of the retail function from refining, according to the so-called Iowa plan under the compulsion of regulations discouraging to chain-store operations, has further aggravated the marketing situation in a manner particularly disruptive of the function of the middleman. The atomistic kind of competition thus induced has, in turn, set up the incentives for certain state price-fixing laws which are now tending to undo some of the effects of previously enacted chain-store restrictions. All these developments are pretty far removed from proration, but they illustrate the difficulties of regulations that affect groups rather than principles.

Future of Proration

In any system of economics, supply and demand must balance. There are three methods of production management whereby this result can be attained in respect to oil. First, supply and demand may be left to the automatic regulation of price; second, supply may be artificially restricted to balance demand; and third, supply may be regulated to conform to a set of engineering requirements, with demand and such modified supply left free to be equated by price. Until slightly more than a decade ago oil production was ruled by the first method. Then improvements in technology and a decelerating rate of growth in demand created a surplus that induced artificial action for the purpose of reestablishing a balance. With this development the second method came into existence. As this plan spread and became implemented, it came to be appreciated that restricted flow lowered costs and increased recoveries; in short conserved the resource for fuller utilization. With this realization and the growth of engineering experience supporting the concept, proration began to approach the third method in its operation. Proration now stands in a transition stage, with its various elements in different degrees of advancement.

The ideal proration, as I see the matter, is a system of state-enforced engineering quotas keyed to optimum rates of production, as determined by exacting technical investigation, with market demand equated to this quota system by a free and flexible price. The full attainment of this end will require time, both to perfect the engineering knowledge necessary to establish the base for its functioning as well as to permit the gradual accommodation of investments and trade channels to the new plane of equilibrium. The existing machinery of proration is adapted to this purpose and the employment of market-demand quotas is a necessary instrumentality to effectuate the transition. A concerted move toward the engineering objective, sponsored by the Interstate Oil Compact Commission, coupled with a planned attack by the state regulatory bodies upon the flaws in proration administration that lead to unnecessary drilling, if conducted in an atmosphere of flexible crude-oil prices suitable for preserving balance in the internal structure of the industry—these conditions, I believe, would enable the industry to progress to a position of maximum serviceability to both the public and itself.

I have examined the literature, exchanged experience with many engineers, and studied the reservoir condition in a large number of pools, and the data thus far available are suggestive that the optimum-rate concept is one that can be worked out by the engineers as a practical yardstick. The data likewise indicate that our known reserves are no larger than necessary to support such rates of output, although existing market demands would not conform closely to the component parts of a supply conditioned by a rigid application of optimum rates or as likely to manifest itself where overinvestment in unnecessary drilling has taken place. But these preliminary studies support the conclusion that, far from being distant from an ideal conservation measure, proration has this goal almost within its reach.

As to the future, proration faces two avenues of change. It may evolve either into a rigid system of pervasive regulation under which all freedom of initiative will be throttled, or else into an engineering device for maximizing the resource and minimizing costs, with an effective byproduct of economic stabilization. A regimentation in the former direction will come if the system is implemented with further controls, under the urge for a quick resolvement of temporary maladjustments; whereas time, technology, and economic statesmanship can bring to a successful outcome one of the most significant experiments in the economic field today. The social advantage of the latter course is that under it proration will be encouraged further to support the principles of mass production, the natural destiny of the petroleum industry.

CHANGES CONFUSE

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licenses offer the regular Ethyl Gasoline as a better-quality fuel. Others who do not hold such licenses might offer their own "premium" fuel.

Those who are of the opinion that the ethylized middle grade of gasoline, or "Q" gasoline, is good enough to operate the great majority of cars usually offer a lower grade of gasoline. This may or may not contain tetraethyl lead and its principal function is to attract "price buyers." It is this class of gasoline that is giving refiners and marketers great concern. The relatively low price posted for this grade when it is accompanied with a forceful display of the fact that it contains tetraethyl lead is doubly effective.

Naturally, this plan is intended to gain gallonage for this station at the expense of others which do not offer leaded third grade.

How well this idea has worked in practice cannot be accurately portrayed yet and a confused picture results when the experiences of individual companies are reviewed. For example, one refiner who furnishes a large number of stations with leaded third-grade gasoline indicated that his sales of this material had doubled over those of the same period 1 year ago. Another refiner in about the same position but who does not offer leaded third-grade gasoline except in the Standard of Indiana marketing territory was equally sure that no shift in the relationship of his sales had resulted.

Probable Results

It does seem, however, that regardless of whether a shift has occurred in the relative gallonage of the three grades of gasoline or whether volume was lost by the integrated company to the smaller so-called "independent" station operators the practice of liberalizing the use of tetraethyl lead has brought about an increase in the average octane value of motor fuels and in keeping with the rising need for gasolines of better quality among all standard makes of automobiles.

This thought becomes more forceful when it is backed by the comparison between the average of motor-fuel octane numbers determined by an elaborate survey reported June 8 of this year and the suggested range of octane values of the various grades outlined above. Following is the comparison:

OCTANE VALUES (L3 METHOD) OF MOTOR FUELS SOLD THROUGHOUT THE MIDDLE WESTERN STATES

	Result of survey early in spring	Range today
Third-grade gasoline	62	65 to 67
Middle or regular grade	73	72 to 74
Premium grade	80	78 to 81

Added emphasis is given the statement when it is pointed out that the average octane value of third-grade gasoline, on the same basis, has risen nine numbers within 5 years, the regular grade four, and the premium grade five.

International

Mexico . .

Britain Largest Buyer; Germany Was Third

IN Mexico City reports of petroleum exports during June show that Great Britain was the largest single purchaser of supplies from that country, despite the fact that a British company, a subsidiary of the Royal Dutch-Shell group, was one of the most extensive holders of properties expropriated by President Cardenas in March 1938. During June Great Britain was listed as the destination for 799,471 bbl. of crude oil and products, a daily average of 26,649 bbl.

The United States received 458,949 bbl. of crude and products from Mexico in June, according to the report, a daily average of 15,298 bbl., consisting predominantly of heavy crude.

June shipments of petroleum from Mexico to the four most important recipients, listed by products and shown in cubic meters, follow:

Product—	Great Britain	United States	Germany	Italy
Heavy crude	61,922	56,364	.....	.....
Light crude	37,505	11,081	15,226	22,894
Fuel oil	15,352	5,211	10,312	2,389
Gas oil	.....	297	11,699	598
Gasoline	12,323	.....	.....	.....
Kerosene	.....	7	.....	.....
Lubricating oil	.....	5	.....	.....
Total	127,102	72,965	37,207	25,882

Cubic meter: 6.29 equals U. S. barrel.

The complete export trade of Mexico in June totaled 279,909 cu. m. Thus, the four countries listed in detail received more than 90 per cent of all petroleum reported leaving Mexico in that month.

Production of light petroleum increased from 325,854 cu. m. in June 1938 to 480,566 cu. m. in June 1939. On the other hand, the production of heavy petroleum declined from 83,016 cu. m. in June 1938 to 78,868 cu. m. in June 1939.

Exports of petroleum increased from 137,512 cu. m. in June 1938 to 279,909 cu. m. in June 1939.

Exportations of petroleum and petroleum products by countries and Mexican tariff classifications during June 1939 follow:

EXPORTS OF CRUDE OIL WITH A DENSITY OF 0.96 OR LOWER, BY COUNTRIES, DURING JUNE

Country—	Cu. m.
United States	56,364
Great Britain	61,922
Italy	22,894
Netherlands	9,166
Total	150,346

EXPORTS OF CRUDE OIL WITH A DENSITY HIGHER THAN 0.96, BY COUNTRIES, DURING JUNE

Country—	Cu. m.
United States	11,081
Germany	15,226
Great Britain	37,505
Total	63,812

EXPORTS OF FUEL OIL, BY COUNTRIES, DURING JUNE

Country—	Cu. m.
United States	5,211
Germany	10,312
France	779
Great Britain	15,352
Italy	2,389
Denmark	53
Norway	238
Panama	1,548
Total	35,882

EXPORTS OF GAS OIL, BY COUNTRIES, DURING JUNE

Country—	Cu. m.
United States	297
Germany	11,669
Italy	598
Japan	18
Denmark	120
Norway	490
British Honduras	70
Sweden	823
Panama	1
Total	14,086

EXPORTS OF REFINED GASOLINE

Country—	Cu. m.
United States	1
Great Britain	12,323
Guatemala	379
British Honduras	213
Total	12,916

EXPORTS OF LUBRICANTS AT 20° C.

Country—	Cu. m.
United States	5
Japan	2
Guatemala	4
British Honduras	4
Peru	5
Total	20

Rumania . .

Continued Decline in Drilling and Output

CRUDE-OIL production in Rumania during the first 6 months of 1939 amounted to 23,186,421 bbl., a decline of 1,714,042 bbl. from the output for the same period in 1938 which totaled 24,900,463 bbl. The production during the first 6 months was at the rate of 46,376,000 bbl. for the year, compared to actual output of 49,517,600 bbl. for 1938, according to calculations based on conversion of Rumanian crude oil at the rate of 7.48 U. S. bbl. of 42 gal. per metric ton.

The monthly production for 1939 has been consistently falling below the output for the corresponding months of 1938 and there have been no new developments in exploration to indicate that the trend could be reversed during the last half of the year.

In 1937 Rumanian crude-oil production totaled 53,504,440 bbl., the first decline shown since a steady increase started in 1931. Since 1936, however, the production trend in Rumania has been consistently downward.

Drilling has slumped in proportion to the decline in production. During the first 6 months of 1939 the footage drilled totaled 423,108 ft., compared to 531,161 ft. for the same period last year. This trend in drilling activity reflects the political unrest existing most of the year in Europe, and the Rumanian Government's attitude in delaying modification of the regulations applying to acquisition of new prospective oil lands.

The war is expected to emphasize the trend in drilling and this in turn will be reflected in sharper declines in production. Most of the large producing companies in Rumania are dominated by American, British or French capital and expenditures in Rumania will be sharply curtailed. Rumors continue in international circles, censored as they are, that Germany has the Rumanian fields as one of its ultimate objectives.

Rumania's trade treaty with Germany concluded at the start of this year provides that up to 25 per cent of the exportable peroleum surplus from Rumania may be the basis of traffic; but beyond this limit there is no obligation to make additional petroleum deliveries to the Reich.

War Control . .

Consumption Limits in Italy and Holland

REGULATION on civil consumption of petroleum has been imposed in one form or another in practically all European countries, including neutrals as well as belligerents.

Details on regulations imposed in Italy and the Netherlands have reached this country and are reported by the Department of Commerce as follows:

The consumption of automotive fuels was restricted by the Italian regulations, effective September 4, as follows:

Distributors of liquid fuels are forbidden to consign gasoline to persons not in possession of either green or red permits issued by the Special Bureau of Liquid Fuels of the Ministry of Corporations through the medium of the A.G.I.P. (Azienda Generale Italiana del Petrolio). This prohibition does not extend to the fueling of (1) diplomatic cars; (2) cars registered in foreign countries and admitted for temporary circulation in the kingdom, and (3) cars belonging to the government.

Vehicles subject to special circulation license requirements are entitled to the following daily maximum consumption allowances:

	Liters
1. Taxicabs	10
2. Trucks	20
3. Buses:	
(a) Where service is scheduled as one round trip daily, normal consumption.	
(b) Where service is scheduled at two or more round trips daily, 50 per cent of normal consumption. (Note: effected by a 50 per cent reduction in trips.)	
4. Other automotive vehicles	5

Five liters equal about 1.311 U. S. gallons.

In the Netherlands a bureau for mineral oil products, connected with the Commerce and Industry Section of the Department of Economic Affairs, has been established.

All producers and importers of mineral lubricating oils and fats are required to register with the bureau, giving information as to the location of their offices, storage places, etc., as well as the names of directors and/or owners. Each importer or manufacturer of lubricating oils and fats must inform the bureau of the quantities of goods delivered by them from August 1, 1938, to July 31, 1939, inclusive. They must henceforth state weekly what quantities of lubricating oils and fats they have stored or have otherwise stocked, as well as the location of these stocks.

Sales or deliveries of mineral lubricating oils and fats by importers or manufacturers during any period of 30 days are limited to 70 per cent of the monthly average sales or deliveries made between August 1, 1938, and August 1, 1939, irrespective of whether they obtained such goods within the Netherlands or imported them. For sales or deliveries exceeding these quantities, licenses from the Minister of Economic Affairs are required.

Refinery Expansion

Capacity of Harrisburg Plant Will Be Doubled

Construction work for an expansion program which will result in doubling the capacity of a refinery at Harrisburg, Tex., will start this week. The plant has been acquired by Raymond R. Russell, San Antonio, Tex., oil man, from Bennett Petroleum Corp.

The plant now has a processing capacity of 1,750 bbl. daily; this will be increased to 3,500 bbl.

The concern will be known as the Russell Oil Co.

Crude oil for the refinery will be bought from fields in the Houston area.

A.P.I. Refining Division Nominating Committee

A committee of 15 to nominate 20 elective members of the 1940 General Committee of the American Petroleum Institute's Division of Refining has been appointed by J. Howard Pew, Sun Oil Co., Philadelphia, Pa., chairman of the 1939 general committee. The meeting of the nominating committee, and election of the 1940 general committee will take place at the A.P.I. annual meeting to be held at the Stevens Hotel, Chicago, November 13 to 17.

Members of the nominating committee, whose appointment was announced by R. P. Anderson, American Petroleum Institute, secretary of the general committee, are: J. B. Rather, Socony-Vacuum Oil Co., Inc., New York, chairman; E. G. Borden, Power Patents Co., Inc., New York; T. G. Delbridge, Atlantic Refining Co., Philadelphia, Pa.; J. G. Detwiler, Texas Co., New York; E. W. Gard, Union Oil Co. of California, Los Angeles, Calif.; H. F. Glair, Standard Oil Co. (Indiana) Chicago; R. A. Halloran, Standard Oil Co. of California, San Francisco, Calif.; George R. Lord, Sinclair Refining Co., New York; J. A. McCoy, Tide Water Associated Oil Co., Bayonne, N. J.; W. F. Sims, Panhandle Refining Co., Wichita Falls, Tex.; Herschel G. Smith, Gulf Oil Corp., Philadelphia, Pa.; F. W. L. Tydeman, Shell Development Co., San Francisco, Calif.; C. R. Wagner, Pure Oil Co., Chicago; H. D. Wilde, Jr., Humble Oil & Refining Co., Houston, Tex.; and M. P. Youker, Phillips Petroleum Co., Bartlesville, Okla.

Atlas Reorganization Permits Operation of Refinery

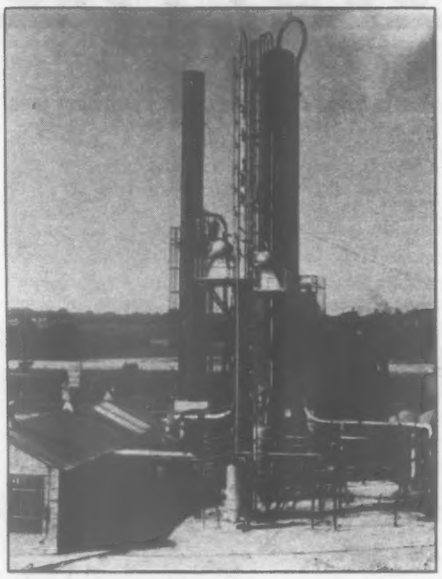
The 12,000-bbl. refinery and polymerization plant of the Atlas Pipe Line Corp., Shreveport, La., will continue in operation after the company reorganization under Chapter 10 of the 1938 Bankruptcy Act. The company was assured a supply of crude this week. A public auction held in Shreveport last week failed to satisfy bondholders and creditors of the company, in receivership since early summer. No bids were received for the refinery, the office building, the Sparco stock or the pipe line extending from the East Texas field to El Dorado, Ark., via Shreveport.

Central City Refinery Is Under Construction

A refinery with a capacity of 2,000 bbl. is being built by Central Illinois Oil & Refining Co. at Central City, Ill. It is anticipated that it will be completed in the middle of October. This is the fifth skimming plant to be built in the Centralia area.

Plant Near Wisner-Akron Field in Michigan Is Nearly Completed

Work on constructing the new 500-bbl. refinery of the Caro Refineries, Inc., near the Wisner-Akron field, Tuscola County, Michigan, will be completed the first week in October. The plant will operate on crude from the Wisner-Akron field.



Cracking unit at Pana Refining Co.'s recently completed plant, Pana, Ill.

Ownership of the Caro Refineries is divided among crude purchasers, producers, and royalty owners interested in the Wisner-Akron and Tuscola County fields. The general manager of the new refinery will be David Kennedy, formerly chief stillman at the Producers Refineries, Inc., plant at West Branch, Mich.

Refinery at St. Elmo, Ill., Damaged by Fire

Allied Oil Co.'s 3,500-bbl. refinery at St. Elmo, Ill., was damaged slightly last week when fire broke out due to a leaky tube in a still; it took fire-fighting crews a half hour to bring the blaze under control.

The plant will be shut down temporarily while repairs are being made, according to A. R. Matthews, an official of the company. The refinery operates on crude purchased from independent producers in the Louden field and distributes its products to local marketers in the vicinity of St. Elmo.

Gulf Adds Second Aviation-Gasoline Unit at Port Arthur

Gulf Refining Co. let contract to the Lummus Co. for the construction of a second aviation-gasoline unit at its Port Arthur refinery. Construction of the unit will be started during this week; it is expected that it will be completed within 6 months. Construction of the unit has been under consideration for some time as the result of increasing demands for premium fuel.

Jersey Company Consolidates Operations at Bayway

NEW YORK.—Another step in the consolidation of refining operations on the East Coast at Bayway, N. J., was announced last week by Standard Oil Co. of New Jersey. The first step will be reduction of the Eagle Works by October to a station for blending, packaging and shipping of finished products. By the last of next June the curtailment program calls for discontinuance of the case and can-manufacturing operations as well as the selling and shipping of such packages from Bayonne. The interrefinery pipe-line system between Bayonne and Bayway will be dispensed with on the eventual disposition of the refinery site at Bayonne. The Bayonne equipment will be dismantled. All of the modern refinery installations for several years have been concentrated at Bayway.

Facilities of Republic Refinery To Be Increased by New Units

HOUSTON, Tex.—Immediate plans of Republic Oil Refining Co. call for the construction of a cracking plant, at the company's refinery at Texas City, which will cost $750,000; a power plant costing $50,000 will also be built in the course of an expansion program which will require a total expenditure of approximately $1,000,000.

Cascade Completes New Illinois Plant

Test runs are being made at the Cascade Refining Co.'s plant, recently completed in the northern part of the Lake Centralia-Salem field, Illinois. It is anticipated that the plant will go on stream for regular operation this week. The company is headed by A. B. and J. C. Potter, independent operators, who have production; according to present plans about 2,000 bbl. a day will be run from the Lake Centralia field.

Pipe-Line News

Work Begun on Gas Line From Joaquin Field

SHREVEPORT, La.—O. B. Siler, vice president and general manager of Natural Gas Distributing Corp., of which A. T. Mast, of Nacogdoches, Tex., is president, announced that work is starting at once on a 31-mile 6-in. acetylene-welded gas line from the Joaquin gas field to Garrison, Tex.

Mr. Siler said eventually it is planned to extend the line to Lufkin an additional 21 miles and that also a 3-in. lateral line will be built from Tenaha to Center, Tex., to supply that municipality with gas from Joaquin field.

Chestnut Ridge Gas Line Contract Awarded

PITTSBURGH, Pa., Sept. 25.—Another outlet for the new deep gas field on Chestnut Ridge near the Summit Hotel in Fayette County, Pennsylvania, will be provided with the starting of a line by L. J. Houze Convex Glass Co. from Point Marion, Pa., where its plant is located, to the No. 1 Wasson & Co. well on the J. H. Sorg farm in North Union Township. The new line will be approximately 18½ miles long using 4-in. pipe and couplings. Sylvester Rich, of Bradford, Pa., is the contractor and work is beginning at the Point Marion end, with completion expected the last week in October.

While the line will have greater capacity, it is reported that about 500,000,000 cu. ft. a year will be taken from the Summit field. The Sorg well was bottomed in the Oriskany sand and at completion was reported to be showing over 2,500,000 cu. ft. a day open flow from the Onondaga and Oriskany with a shut-in pressure over 2,900 lb.

North Texas Fields Receive Pipe-Line Connections

FORT WORTH, Tex.—New pipe-line connections for the increasingly active Hull-Silk pool in northern Archer County and for one of Clay County's recently opened oil fields, promised greater development for the North Texas district in the months to come. Sin-

clair Prairie Pipe Line Co. has announced it will begin tieing into all unconnected wells in the Hull-Silk pool this week. The company's new carrier is a 4-in. line connected with its old line traversing the field a short distance to the east of present development. Some 12 completed wells in the Ligon and Sikes extension area of the Hull-Silk pool have been without connections since their completion and production has been trucked out of the field.

Sinclair Prairie also announced that it will connect wells in the recently opened Rogers pool just west of Nocona in Montague County, the field having been without a pipe line since its discovery. In Clay County Bridwell Oil Co. has announced that it will lay a 5-mile 2-in. line from its two producers in the Halsell pool, northeast to the Gulf Pipe Line Co.'s trunk line running from Burkburnett in Wichita County to its refinery in Fort Worth. Still remaining without a pipe line is the Burns pool about 6 miles south of the Halsell pool and in Clay County.

Tide Water and Seaboard Plan Distillate Line

SHREVEPORT, La.—Tide Water Associated Oil Co. and Seaboard Oil Corp. are taking right-of-way for a distillate pipe line connecting the Long Lake and Cayuga pool recycling plants of the partnership, in Anderson County, East Central Texas.

Plans call for laying a 4-in. line, paralleling the 20-in. carrier of Lone Star Gas Co., which also connects the two pools.

Equipment for 75-Mile Line Set Up in Cotton Valley

SHREVEPORT, La.—Testifying before the Arkansas State Utilities Commission, Tom R. Jones, Ada, Okla., pipe-line contractor, stated that equipment for construction of the $440,000 75-mile gas line from Cotton Valley, La., to Okay and Hope, Ark., is set up in the Cotton Valley field, and that the line can be laid in 30 days after pipe is received. The commission last week announced it would grant the Louisiana-Nevada Transit Co. a permit to distribute natural gas in Southwest Arkansas in competition with Arkansas-Louisiana Gas Co. The unusual procedure of notifying the company its permit would be granted, prior to issuing the order, was taken to facilitate the contracting for pipe and other supplies before material costs increased. The line will take about 10,000,000 cu. ft. of gas daily from the Cotton Valley field serving the Ideal cement plant, at Okay, Hope brick works and Hope Light & Water Co.'s generating plant. The company may be required to serve other Arkansas towns in the future.

Natural Gas

Indianapolis Lease Invalid District Court Holds

INDIANAPOLIS, Ind.—A 99-year lease of Indianapolis Gas Co. properties to Citizens Gas Co., now the municipally owned Citizens Gas & Coke utility, is invalid and does not bind the city of Indianapolis, according to an opinion by Judge Robert C. Baltzell in U. S. District Court.

The opinion was given in a suit in which Indianapolis Gas Co. and Chase National Bank of New York sought to force the city to accept the 26-year-old lease. During the litigation, the $600,000 annual rental for the properties under the lease have been held in escrow. Now, under an agreement among plaintiffs and the defendant, "reasonable compensation for use of the mortgaged property (fixed by agreement or by the court) shall be paid by the escrow agent to Indianapolis Gas Co. and the balance paid to the city of Indianapolis."

Howard F. Burns, Cleveland, Ohio, attorney for Chase National Bank, asserted it has not been decided whether an appeal would be taken.

Natural Gasoline

Fourth Recycling Plant Is Planned for Agua Dulce

CORPUS CHRISTI, Tex.—L. M. Lockhart, of San Antonio, has signed a contract with the Petroleum Engineers, Inc., of Tulsa, for construction of a 25,000,000-cu. ft. recycling and high-pressure separator unit in the Agua Dulce field, where Mr. Lockhart has a number of condensate wells.

Mr. Lockhart also plans new development on his block in the northern part of the field, where he will drill six or more wells to sands at depths in the vicinity of 4,800 ft. The plant will be at the northern end of the field. In processing 25,000,000 cu. ft. of gas daily some 25,000 gal. of fluid will be recovered by the plant.

This plant will be the fourth recycling plant for this field. Henderson and associates several months ago completed a 60,000,000-cu. ft. unit in association with the Agua Dulce Gas Co., which is also conducting a drilling campaign in the field.

John Sherrin, Clyde Alexander and others, known as the Recycle Corp., are erecting a plant which will process around 135,000,000 cu. ft. of gas daily and recycle dry gas.

Natural Gasoline Production Decreased in United States

The daily average production of natural gasoline decreased in July 1939, according to a report prepared by the Bureau of Mines. The daily average in July was 5,656,000 gal., compared with 5,733,000 gal. in June. The most outstanding decreases in July were in Oklahoma City and Kettleman Hills, and the largest increase in East Texas.

Stocks continued to increase, and the total on hand at the end of the month was 299,166,000 gal. (7,123,000 bbl.), compared with 283,458,000 gal. on June 30.

Shipments to jobbers and retailers increased from 9,450,000 gal. in June to 10,122,000 gal. in July and exports from 15,750,000 gal. to 18,480,000 gal. The average vapor pressure of shipments to refineries and refinery-owned bulk plants decreased, but that of shipments to jobbers and exporters increased. The weighted average for all movements in July was 19.4 lb. compared with 19.3 in June and 18.7 lb. in July 1938.

Recycling Project Considered For Weslaco Field

WESLACO, Tex.—A series of tests to determine whether distillate production warrants construction of a $300,000 recycling plant in the Weslaco field has been started in the field.

Ed Galt, Ardmore, Okla., president of East Texas Production Co., Corpus Christi Corp., and Chicago Corp., announced that he had a contract with Atlantic Oil & Refining Co. to make the tests at his expense.

The well, drilled as Atlantic No. 1 American-Rio Grande Land Co., was completed as South Texas' deepest producer in February 1938, in gas-distillate sand at 8,634-42 ft. It finally settled down to steady production of about 70 bbl. of distillate and 9,000,000 cu. ft. of gas daily. It has been shut in for more than a year.

Petroleum Exposition Will Not Be Postponed

General Manager W. B. Way of the International Petroleum Exposition, speaking of rumors that the 1940 exposition in Tulsa might be postponed because of the war, says there is no foundation to this rumor whatsoever, for actually the war seems to be increasing the interest among the exhibitors. Already 83 per cent of the space is sold out at this early date, the earliest period in the history of the show that so much space has been taken.

PRODUCTION AND STOCKS OF NATURAL GASOLINE

(Thousands of gallons)

	July 1939	June 1939	Jan.-July 1939	Jan.-July 1938	At refineries
East Coast	.....	.....	.....	.....	9,240
Appalachian	3,892	3,664	39,657	39,202	840
Illinois, Michigan, Kentucky	1,060	1,039	7,992	7,021	3,948
Oklahoma	37,349	37,946	262,946	276,151	3,864
Oklahoma City	8,517	9,218	63,084	85,004	.....
Osage County	4,546	4,556	30,206	28,435	.....
Seminole	10,838	10,941	73,411	69,439	.....
Rest of state	13,448	13,231	96,245	93,273	.....
Kansas	4,078	4,272	33,457	30,783	84
Texas	61,615	58,422	399,236	374,094	3,570
Gulf	7,594	6,933	42,369	32,127	3,024
East Texas	18,390	17,043	112,702	109,044	.....
Panhandle	18,990	18,429	134,922	132,570	.....
North Texas	2,248	2,096	15,492	14,700	.....
West Central	5,254	5,200	38,198	39,974	.....
Rest of state	9,139	8,721	55,553	45,679	.....
Louisiana	7,764	7,572	49,951	50,257	.....
Arkansas	2,149	2,025	15,017	12,885	378
Rocky Mountain	7,930	7,897	52,236	43,953	4,158
California	49,713	49,153	358,558	385,606	93,156
Huntington Beach	2,792	2,722	20,409	24,969	.....
Kettleman Hills	12,563	12,622	98,250	106,525	.....
Long Beach	7,240	7,047	50,197	53,398	.....
Santa Fe Springs	4,869	4,858	34,265	37,801	.....
Ventura Avenue	5,107	5,100	35,161	32,850	.....
Rest of state	17,142	16,804	120,276	130,063	.....
Total	175,350	171,990	1,219,050	1,219,932	119,238
Daily average	5,656	5,733	5,750	5,754	.....
Total (thousands of barrels)	4,175	4,095	29,025	29,046	2,839
Daily average	135	136	137	137	.....

RECEIPTS AND DELIVERIES OF NATURAL GASOLINE

(Thousands of gallons)

	Deliveries				Receipts		
	To refineries	To refinery-owned bulk plants	To jobbers and retailers	Exports	At refineries	At refinery-owned bulk plants	By jobbers and retailers
East Coast	.....	.....	.....	.....	429	8	44
Appalachian	2,376	306	2,842	48	2,137	306	1,432
Ind., Ill., Ky., etc.	512	.....	542	.....	10,681	1,192	2,609
Oklahoma	28,220	551	1,440	48	17,952	28	1,114
Kans., Mo., etc.	2,701	251	244	.....	9,679	258	255
Texas Inland	29,268	931	2,356	136	28,643	.....	.....
Texas Gulf	4,649	.....	320	16,652	.....	199	2,451
La. and Ark.	5,582	313	1,780	.....	4,484	313	1,603
Rocky Mountain	7,087	.....	52	.....	6,390	48	68
California	46,781	.....	546	1,596	46,781	.....	546
Total	127,176	2,352	10,122	18,480	127,176	2,352	10,122
Daily average	3,780	76	327	596	3,780	76	327
Tl. (thou. of bbl.)	3,028	56	241	440	3,028	56	241
Average v.p.	20.4	10.0	12.8	17.5	20.5	10.0	12.8

PROGRAMS AND MEETINGS

A.I.M.E Petroleum Division Los Angeles Program

LOS ANGELES, Calif., Sept. 23.—With the war a potential factor in the petroleum business, an active interest is expected to be taken in the annual meeting of the American Institute of Mining and Metallurgical Engineers Petroleum Division scheduled for October 19 and 20 at the Biltmore Hotel.

Among the papers to be delivered during the 2-day sessions one which will get a lot of attention is that by Rear Admiral H. A. Stuart, U. S. N., director naval petroleum reserves, "General Views of the Navy on Conservation of Oil in California."

Registration of members and guests will get under way in the music room of the Biltmore at 9:30 a.m., Thursday, October 19. W. H. Geis, chairman of the petroleum division, will deliver a short address of welcome, while the first technical session will be presided over by R. P. McLaughlin, assisted by R. W. French, Jr., and John C. Young. The first morning meeting the following papers will be heard: "Problems of the Petroleum Industry," by Ernest K. Parks, consultant; "Must We Look for a New Reservoir Control?" by Stanley Herold, consultant; "The Effect of Rate on the Recovery of Oil by Water Flooding," by Dan R. Rankin, Peerless Pump Division; "Optimum Rate of Production of Oil," by H. T. Wyatt, Shell Oil Co., Inc.; "Fundamental Phase Behavior of Reservoir Hydrocarbons," by John E. Sherborne, Union Oil Co.

Thursday afternoon, October 19, with Harry Stolz, chairman, assisted by Eldon N. Dunlap and F. G. Taves, the following papers will be delivered: "The Place of the Technical Library in the Petroleum Industry," by G. F. Olsen, General Petroleum Corp.; "Subsurface Trespass," by Mortimer Kline (Andrews & Kline, attorneys); "The Effect of Faulting on the Accumulation and Drainage of Oil and Gas in the Wilmington Field," by Read Winterburn, Union Pacific Railroad Co.; "Tideland Oil," by Gail Larkin, Southern California Edison Co.; "The Kettleman Hills Exhibits," by Martin van Couvering, consultant; "The Buried Schist Surface of the Los Angeles Basin," by Eugene B. Waggoner, University of California.

On the second day, with R. E. Allen presiding, assisted by Thomas A. Atkinson and Floyd Merritt, these papers will be heard: "Young Engineers Organize," by Carlton Beal, Tide Water Associated Oil Co.; "Some Aspects of Oil Appraisals," by Walker Clute, consultant; "Consumption Versus Normal Demand for California Crude Oil," by Allan H. Hand, petroleum economist; "Organization of Personnel in the Petroleum Industry," by E. De Golyer, consultant; "Geophysical Studies in California," by F. V. Vaughn, consultant; "The Effect of Temperature on the Plastering Properties and Viscosity of Rotary Drilling Muds," by H. T. Byck, Shell Development Co.

With V. H. Wilhelm presiding, assisted by Carlton Beal and W. S. Eggleston, the following papers are slated to be heard Friday afternoon: "Recent Changes in California Oil Curtailment Methods," by Joseph Jensen, Tide Water Associated Oil Co.; "General Views of the Navy on Conservation of Oil in California," by Read Admiral H. A. Stuart, U. S. N., director naval petroleum reserves; "Apparatus for Study of Pressure-Volume-Temperature Relations of Liquids and Gases," by B. H. Sage and W. N. Lacey, California Institute of Technology; "Volumetric Behavior of Isobutane," by W. M. Morris, B. H. Sage, and W. N. Lacey, California Institute of Technology; "Multiple Well Pumping With Hydraplic Pumps," by R. N. Burnett, Petroleum Equipment Co.; "Factors Influencing the Permeability of Reservoir Rocks," by A. J. Carlson and Max Eastman, University of California; "Screening Effect of Gravel on Unconsolidated Sands," by Ben E. Gumpertz, University of California.

Friday at 7 o'clock p.m. the annual informal dinner will be held in the music room of the Bilmore, sponsored by the Southern California Section, G. A. Joslin, chairman, presiding. Donald B. Gillies, president of the A.I.M.E., will speak on "Steel." D. C. Jackling and E. De Golyer, past presidents, will attend with the institute staff represented by A. B. Parsons, E. J. Kennedy, Jr., and Chester Naramore.

Richard H. Pence is chairman of the technical program committee, assisted by R. E. Allen, A. H. Bell, W. S. Eggleston, Hallan N. Marsh, Ernest K. Parks, Stanley Herold, E. K. Soper, R. P. McLaughlin, Harry Stolz, R. W. French, and W. H. Geis. Arrangements are to be handled by R. E. Swarthout, chairman, and Eldon Dunlap, Vic King, and Lee Huebel for the Southern California Section.

President C. F. Roeser Outlines Program for I.P.A.A.

It is probable that the oil industry and particularly the independent producers have never before faced so many and so diverse problems as at this time, Charles F. Roeser, president of the Independent Petroleum Association of America, declares.

"Through the work of the Special Study Committee of Thirty-Six and the special committees which met in Oklahoma City, August 15, definition and form have been given to many of the problems, with clear-cut recommendations for their solution, and others will be discussed and analyzed thoroughly in the annual convention of our association in Fort Worth, October 18-20. No convention of an oil association ever surpassed this one in importance," Mr. Roeser added.

CALENDAR OF EVENTS

September

SOCIETY OF AUTOMOTIVE ENGINEERS, Hotel Schroeder, Milwaukee, Wis., September 28-29.

October

NATIONAL LUBRICATING GREASE INSTITUTE, Stevens Hotel, Chicago, October 2-3.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Allis Hotel, Wichita, Kans., October 5.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Galveston, Tex., October 5-7.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION meeting, Houston, Tex., October 5-7.

AMERICAN GAS ASSOCIATION, annual convention, New York, October 9-10.

NATIONAL TAX CONFERENCE, Palace Hotel, San Francisco, Calif., October 16.

SOCIETY OF AUTOMOTIVE ENGINEERS, annual dinner, Hotel Pennsylvania, New York, October 16.

NATIONAL SAFETY CONGRESS AND EXPOSITION, Petroleum Section, Ambassador Hotel, Atlantic City, N. J., October 16-20.

COLORADO PETROLEUM INDUSTRIES COMMITTEE, annual convention, Shirley-Savoy Hotel, Denver, Colo., October 17.

NATIONAL STRIPPER WELL ASSOCIATION, annual meeting, Fort Worth, Tex., Blackstone Hotel, October 17.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, tenth annual meeting, Fort Worth, Tex., October 18-20.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Los Angeles, Calif., October 19-20.

WEST VIRGINIA PETROLEUM ASSOCIATION, Hotel Daniel Boone, Charleston, W. Va., October 25.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Washington-Youree Hotel, Shreveport, La., October 27.

November

SOCIETY OF AUTOMOTIVE ENGINEERS, fuels and lubricants meeting, Mayo Hotel, Tulsa, November 2-3.

PETROLEUM FLUID METER CONFERENCE, under auspices of A.S.M.E. and College of Engineering, Oklahoma University, at Norman, Okla., November 2, 3, 4.

NATIONAL MOTOR TRUCK SHOW, Navy pier, Chicago, November 8-16.

AMERICAN PETROLEUM INSTITUTE, twentieth annual meeting, Stevens Hotel, Chicago, November 13-17.

TWENTY-FIVE-YEAR CLUB OF PETROLEUM INDUSTRY, first annual meeting and dinner, Stevens Hotel, Chicago, November 14.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Providence, R. I. November 15-17.

CALIFORNIA NATURAL GASOLINE ASSOCIATION, annual fall meeting, Los Angeles, Calif., November 17.

December

WEST CENTRAL TEXAS OIL AND GAS ASSOCIATION, Abilene, Tex., December.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Philadelphia, Pa., December 4-7.

January 1940

SOCIETY OF AUTOMOTIVE ENGINEERS, annual meeting, Book-Cadillac Hotel, Detroit, Mich. January 15-19.

February

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

April

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-fifth annual meeting, Stevens Hotel, Chicago, April 10-12.

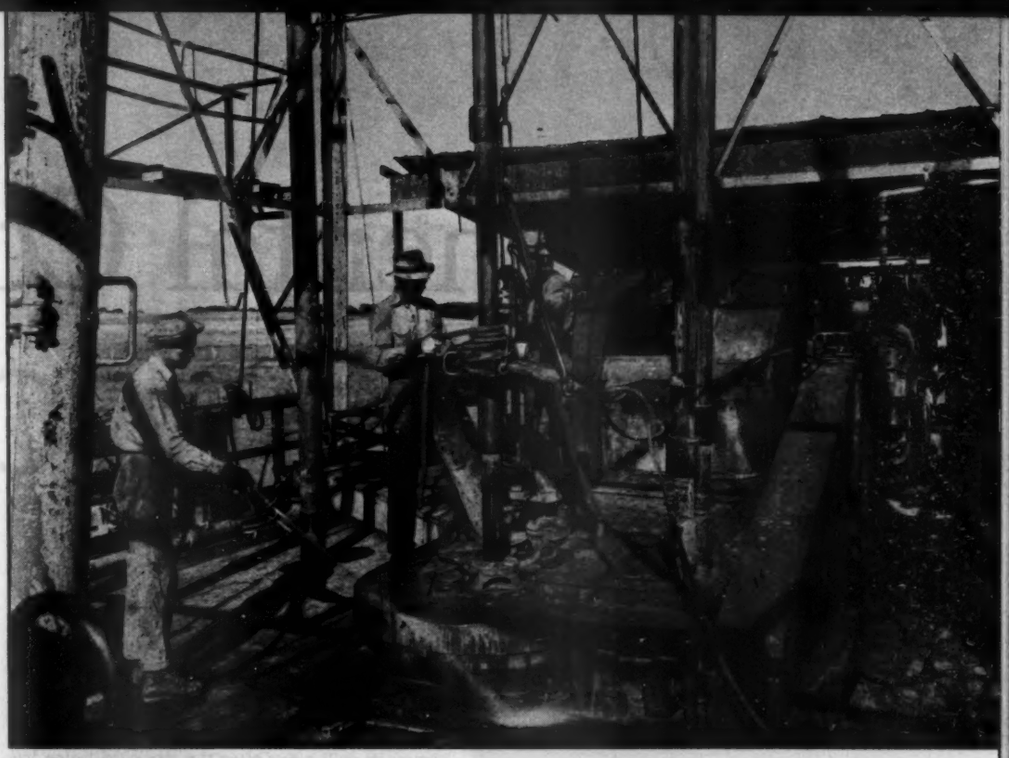
AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio. April 11-12.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio. April 18-19.

May

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.



Fishing at 14,478 ft. on Continental Oil Co.'s No. 1 Proctor in Washita County, Oklahoma, involved numerous trips and the stands could not be spun out with the rotary table. This action photograph shows the crew using a spinning rope to unscrew a stand of drill pipe. The floor is being washed by the worker in the foreground, while at the extreme left is the mud box, which is placed around the stand at the proper time to prevent the drilling fluid from spraying over the machinery and men. *See story starting on following page*

ENGINEERING & OPERATING

SEPTEMBER 28, 1939

Continental Completes Washing-Over and

By PAUL REED

THE deepest washing-over and cutting-out operation ever undertaken on any test in the world was recently successfully completed at Continental Oil Co.'s No. 1 Proctor, SE NW Section 28-10n-20w, Washita County, near Elk City, in western Oklahoma. The test is being drilled by Fain Drilling Co. Cutting-out operations were conducted by Baash-Ross Tool Co. The first cut, and each succeeding cut, set world records.

Drilling is being carried on under the direction of L. P. Carpenter, general superintendent of production, Oklahoma, Kansas, and Illinois, for Continental Oil Co. He is assisted by E. C. Wilbur, assistant general superintendent, and A. B. Cook, district superintendent, southern Oklahoma; Don Edwards is mud engineer; Lee Hunter is the geologist at the well. The contractor's operations are directed by Leslie Fain, Glenn Lynn, the general superintendent, and C. A. Urice, the tool pusher.

In washing over and cutting out by the method employed, a wash-over string, equipped with a rotary shoe having a slightly larger outside diameter and a slightly smaller inside diameter than the drill-pipe cutter is circulated and rotated over the stuck drill pipe. After the stuck drill pipe has been washed over for the desired distance, the wash-over string is withdrawn from the hole and the rotary shoe is replaced by the drill-pipe cutter. The wash-over string is then run back into the hole and the cutter is lowered over the stuck drill pipe. A cut is made a short distance below a tool joint.

On August 12 the test was drilling with a 8¼-in. bit at a depth of 14,479 ft. The last string of casing had been 9⅝-in., set at a depth of 10,176 ft. Drilling was going on in the shale which was topped at 14,004 ft. The tools stuck when raised 15 ft. off bottom for the purpose of adding another joint. In endeavoring to get loose, a pull of 30,000 lb. more than the weight of the drill pipe was taken without results. At that depth the stretch of the drill pipe was 12 to 14 ft., which was too much for the effective use of rotary jars in this particular operation. The drill pipe was worked and rotated without results. Attempts at acidizing with 2,000 gal. and injecting 150 bbl. of oil were likewise ineffectual. Rotating and working the drill pipe was tried. The operators had circulation until it was lost due to cavings collecting around the drill collar and bit. It was impossible to regain circulation even though the pump pressure stood at 6,000 lb.

These views show preparations for running the cutting tool in the hole for the fifth cut. In the view at the left the assembled cutter is screwed on the wash string by hand, and then tightened by hand tongs as seen at lower left. Directly below the pipe tongs are applied and the joint further tightened. To make sure it won't back off, one of the crew (bottom) hits the end of the tongs with a sledge hammer while a strain is applied

The drill pipe was backed off at a depth of 12,268 ft., leaving 2,211 ft. of 3½-in. drill pipe and tools in the hole. The entire string of drill pipe had consisted of 10,000 ft. of 4½-in. and 4,600 ft. of 3½-in. Washing-over operations were commenced with a wash-over string of 493 ft. of 7-in., 26-lb. Spang Chalfant extreme line casing with Doheny Stone two-step thread and no collars. This was attached at the end of 3½-in. Youngstown drill pipe. A Baash-Ross rotary shoe was at the bottom of the wash-over string. The 3½- drill pipe in the hole is of a type which is made with bottle-shaped Hydril tool joints as an integral part of the pipe; tool joints have two-step Doheny Stone thread; outside diameter of the tool joints is 4½ in.

Wash-Over Operation

Soon after backing off the drill pipe, washing over was begun. In preparing for each cut, the practice followed in most cases was to wash over the fish to a point 20 to 100 ft. below the point where the next cut was to be made. Before making the sixth cut, which was the last and final made on the job, washing over was carried down 9 ft. below the cutting point. Before the tools were stuck on August 12 drilling had been going forward at the rate of 100 to 130 ft. per day. At that time mud used in drilling was 9.5 lb. weight and 38 sec. (Stormer viscosimeter). During washing over, mud was kept close to 10.8 lb. weight, 50 sec. viscosity. Circulation was lost only once in the course of washing-out and cutting operations. The rate at which washing over was done was 15 minutes per joint.

A decision was reached to have the drill pipe cut out by an external cutter. Arrangements were made with Baash-Ross Tool Co. to handle these operations. Because of his familiarity with the problems involved in cutting drill pipe of the kind that was stuck in the well, Charles B. Carothers, of the Baash-Ross organization, was brought from the Gulf Coast to supervise the cutting of the drill pipe. In order to push the work along as rapidly as possible, the contractor had him flown from Houston to the well in the company's airplane. Before his arrival washing over had been carried on preparatory to the first cut. On his arrival drill pipe was out of the hole; the drill-pipe cutter was run into the hole at 10:30 p.m., August 23, and the first cut of 452 ft. was made that night.

While fishing was going on, 6 to 9 hours were

World's Deepest Cutting-Out Job

required for a trip. Out of nine trials six cuts were made; there were three failures. This is a creditable performance for a deep-fishing job. It should be mentioned here that in the entire drilling of the well, which had taken more than a year, there had been only one other fishing job. That occurred at 12,800 ft. when a fresh bit was run in a tight hole. The bit was freed by acid and oil in 5 days.

A factor contributing to the success of the cutting operations at the second fishing job, which is the subject of this article, was the straightness of the hole. The maximum deviation from vertical in the first 10,000 ft. of drilling was 2½°; from 10,000 ft. to 13,000 ft. the maximum deviation was 1¾°; below 13,000 ft. maximum deviation was 1½°. Table 1 shows the way cutting progressed.

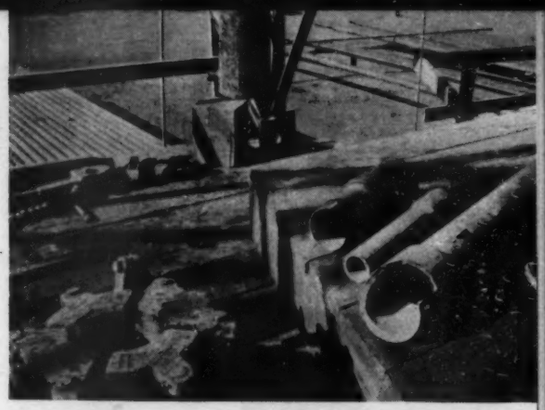
TABLE 1—AMOUNT OF DRILL PIPE REMOVED IN EACH CUTTING OPERATION

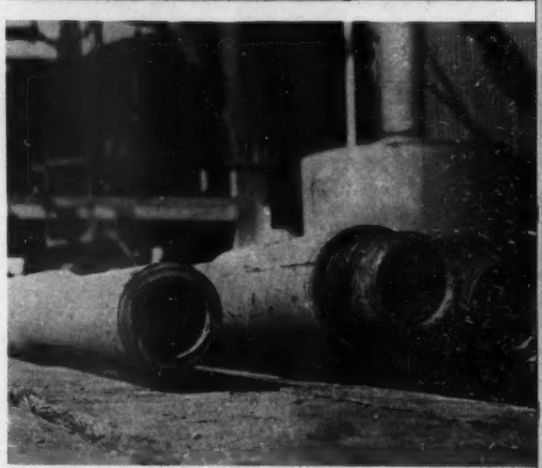
Date—	Feet	Joints	Depth
August 23	452	15	12,876
August 25	335	11	13,011
August 27	391	13	13,402
August 29	420	14	13,822
September 1	422	14	14,244
September 5	122	4	14,366

After making the last cut, about 68 ft. of fish was left in the hole. In addition to the bit and float joint there were 8 ft. of reamer, 30 ft. of 6-in. o.d. drill collar and 28 ft. of drill pipe.

The tool used for cutting is known as the Baash-Ross external drill-pipe cutter, slip type, for cutting external flush-joint drill pipe. For this job, the particular cutting tool used is 18 in. longer than standard size. Because of the bottle shape of the tool joints a slip assembly was used in the cutting tool.

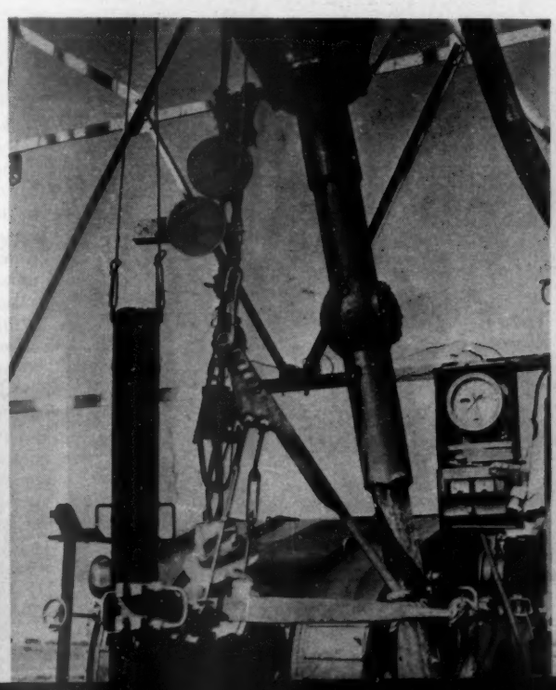
The drill-pipe cutter is a tool which consists of several parts, the principal part being the cutter body or barrel which is a specially built steel cylinder, 42 in. long with an outside diameter of somewhat more than 5 in. Three slots, 6 in. from the lower end, known as knife holes, hold the three knives which do the actual cutting. Each knife is held in place by a cold-rolled pin which passes through the lower end and serves as a pivot on which the knife swings when it is pressed downward and inward by the wedge ring above. At the lower end of the knife hole is a small opening to let the mud run out. The knife is curved slightly inward and is beveled on top near the cutting edge. As a result, after cutting, the bottom of the pipe, removed from the hole, is cut





(Right, top): Cutting tool, sub and the bottom portion of the fifth cut made on the job. (Center): Barrel of the cutting tool, sub, inside mechanism and the first four cuts made on the job being inspected by Charles B. Carothers, who supervised the operation. Note smoothness of cuts and that all cuts were made in the same position on the joints. (Right): Bottom of the fourth cut and some of the drill pipe used on the job. Markings of the cutting tool are discernible in the photograph.

(Below, left): Precision counts, and the supervisor of the cutting job places chalk marks in the kelly joint preparatory to setting the cutting tool. C. A. Urice, toolpusher for Fain Drilling Co., looks on. (Center): To prevent any misreading of the amount of weight or strain being applied to the fishing string, three weight indicators were used on the job. (Right): Cutting of the pipe is accompanied by a slight upward movement of the fishing string. Mr. Carothers can be seen measuring the movement of the drum while the driller raises the pipe slowly. Line on the drum moves 10 in. to 1-in. movement of drill pipe



squarely; the top of the pipe stuck in the hole is beveled inward. Above the inward-curving cutters is the edge ring, retained by sheer pin before lowering into the hole. On the inside of the barrel, 6 in. from the bottom, is a ⅜-in. shoulder, beyond which the wedge ring cannot move as it travels downward. Above the wedge ring, in succession, are sleeve, two race rings, and the slip assembly. The barrel is attached to the bottom of the wash-over string by a top sub. A skirt guide with an outside diameter slightly larger than the barrel is screwed into the bottom of the barrel.

Cutting Procedure

When cutting is to be done, the drill-pipe cutter is lowered over the top of the stuck drill pipe until a point is reached a short distance below the top of the joint which is to be cut. Tools are raised until the slips in the slip assembly engage against the bottle-shaped lower end of the tool joint. The man in charge of cutting notices an increase in weight on the indicator. He continues to pull sufficiently for the pin shearing which permits the wedge ring to be pressed against the cutters, pushing them inward. A keyway guides the wedge ring in a straight downward movement. A slight strain on the fishing string, shown by an increase on the weight indicator, signifies that the cutting knives are in position for the cutting operation. The cut is made by rotating the wash-over string to the right, maintaining a very slight upward pull and steady slow rotation. When the cut is completed, the fishing string is then withdrawn, bringing up the cut-off portion of the drill pipe.

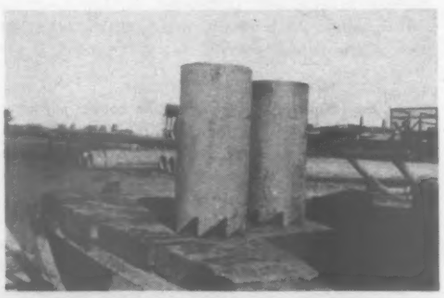
To give a description of the operation as it is seen on the derrick floor some details of the making of the fifth cut on September 1 are presented below. Preparatory to cutting, operators circulated for 45 minutes. At 5:30 p.m. cutting operations started; at 7:05 p.m. cutting was completed and operators started to take pipe out of the hole. The following steps could be observed. The cutting string was raised after the cutter had been lowered to the desired depth. An increase in strain on the cutting string, shown on the weight indicator, continued until an increase of two points signified that after the slips had engaged, pressure had been enough to shear the pin holding the wedge ring above the cutters. The pull on the cutting string continued as the cutters dug into the pipe. The pull was slackened slightly and then resumed in order to have the cutters dig into the pipe again. An "XX" mark was made on the kelly and rotating to the right commenced and continued with a steady upward pull on the cutting string. During cutting the supervisor used chalk marks on the brake drum to keep track of the upward movement of the cutting string. When it was believed that the cut had been completed, the kelly was lowered 2 ft. and pulled slowly upward until the "XX" marks could be seen again. Only a slight increase in strain on the fishing string was observed; this signified that the cut was successful. The increase in strain was due to the lifting of weight of the cut-out part of the fish. If the cut had not been successful the slips would have engaged on the tool joint and pressure would have increased. In this cutting operation 422 ft. of drill pipe was removed from the hole. No overshot is necessary, the knives and slips of the cutting tool supporting the cut-out portion of the fish and bring it out of the hole.

After the last and sixth cut was made on September 5, operators washed down to the reamer. In two attempts with 5¾-in. and 7¼-in. overshots of different makes it was found to be impossible to remove the 69 ft. of fish left in the hole. Rotary jars were used but the elasticity of the pipe prevented them from being effective. In the final effort operators pulled for 10 hours but the length of the string diminished the pressure applied to the fish. Operators decided to sidetrack.

The fish was covered with 100 sacks of cement and a whipstock set. Sidetracking is now under way. A 4,800-ft. liner of 7-in. pipe will be set and cemented top and bottom.

In cutting pipe at the great depth at which it was done in this well, certain indications were absent which are relied upon when cutting shallower wells. On the completion of cutting there was no jump of the kelly to be seen; the rotary did not turn at a faster rate.

While it was impossible to recover all the fish in this instance, only a minor part of it was left in the hole and the cost of the sidetracking operation was reduced to a minimum by the cutting out of most of the stuck pipe. If drilling continues until the well is below 15,004 ft. it will break the world's all-time depth record which made made by the Continental Oil Co. last year in Kern County, California.



(Above, top): Mill-type rotary shoes used on the wash-over string preparatory to cutting out of the drill pipe.

(Above, bottom:) Assembled cutting tool and sub before running in the hole to make the sixth cut. The casing spider in the foreground was used for running in the wash-over portion of the fishing string

(Above): Some idea of the amount of drill pipe required to drill a deep test is obtained on seeing all the drill stem in derrick

(Right): Tool joints on the pipe left in the hole did not have a shoulder but were bottle-necked. A slip-type cutting tool was used

Court of Appeals Affirms Tretolite Patent Decision

In the oil patent case, Tretolite v. Research Products Co., Ltd., which has been pending 6 years, the U. S. Circuit Court of Appeals for the Ninth Circuit recently affirmed the U. S. District Court for the Southern District of California, holding that the latter company, by making and selling a chemical reagent known as "Hydrate 488" for recovering crude petroleum oil from emulsions, had infringed the patent of the Tretolite Co. The case involved a patent obtained by William S. Barnickel, a pharmaceutical chemist of St. Louis; the case was filed in 1933 and originally tried in 1935 before U. S. Commissioner David B. Head, sitting as special master, in Los Angeles. His decision, that the patent was valid and infringed was sustained by U. S. Judge Harry Hollzer last year.

During the trial it was developed that crude oil valued at more than a billion dollars had been recovered by means of the chemical reagents used in the process of the patent; and that the process was being employed in South America, Mexico, Rumania and other foreign countries, in addition to nearly every oil field in the United States.

In the decree, it was stated that the patentee, William S. Barnickel, conceived the idea of using chemicals to break oil emulsions. He believed that it was the surface tension of the water in the globules of the emulsion that overcame the action of gravity, which would otherwise cause the lighter oil to rise and the heavier water to settle to the bottom. The patentee also believed that surface tension was in a large measure due to the impurities in the water. If chemically changed, he reasoned, the tension would lessen. This together with the application of heat, if necessary, the oil would be released from the emulsion.

TING JOB IN THE WORLD

BAASH-ROSS CUTTER....

CUTTER ABOUT TO GO INTO WELL

The Baash-Ross External Drill Pipe Cutter, equipped with a suitable guide, is run into the hole attached to wash-pipe after the fish has been washed over for a distance as great as 400 feet or more. An even, upward pull feeds the knives into the pipe as the cut is made by slow right-hand rotation of the wash-over string. Here you see the Cutter made up on the wash-pipe before going into the hole for another piece of the fish.

HERE'S THE CUTTER THAT DID THE JOB

This is the Baash-Ross slip-type Drill Pipe Cutter disassembled for inspection, and four of the ends of cut-off external upset drill pipe. The photo is unretouched—note how smooth the cut surfaces are.

The illustration at right shows the simple, sturdy construction of the Baash-Ross Drill Pipe Cutter. An interchangeable overshot type spring assembly is used instead of the slip assembly when drill pipe equipped with A.P.I. Joints is to be cut.

BAASH-ROSS TOOL COMPANY

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BAASH-ROSS

Combating Electrolytic Corrosion of Gas-Well Casing by Insulation

By WILLIAM E. HUDDLESTON
Corrosion Engineer, Empire Pipeline Co.

LEAKAGE of gas from the cellars of two wells in the Pampa, Texas, field led to a recent investigation and insulating program, designed to prevent the recurrence of casing failures due to electrolytic corrosion. Before attempting to prescribe any preventative measures, it was decided to conduct a corrosion survey over the entire field-gathering system in order to determine the source of trouble.

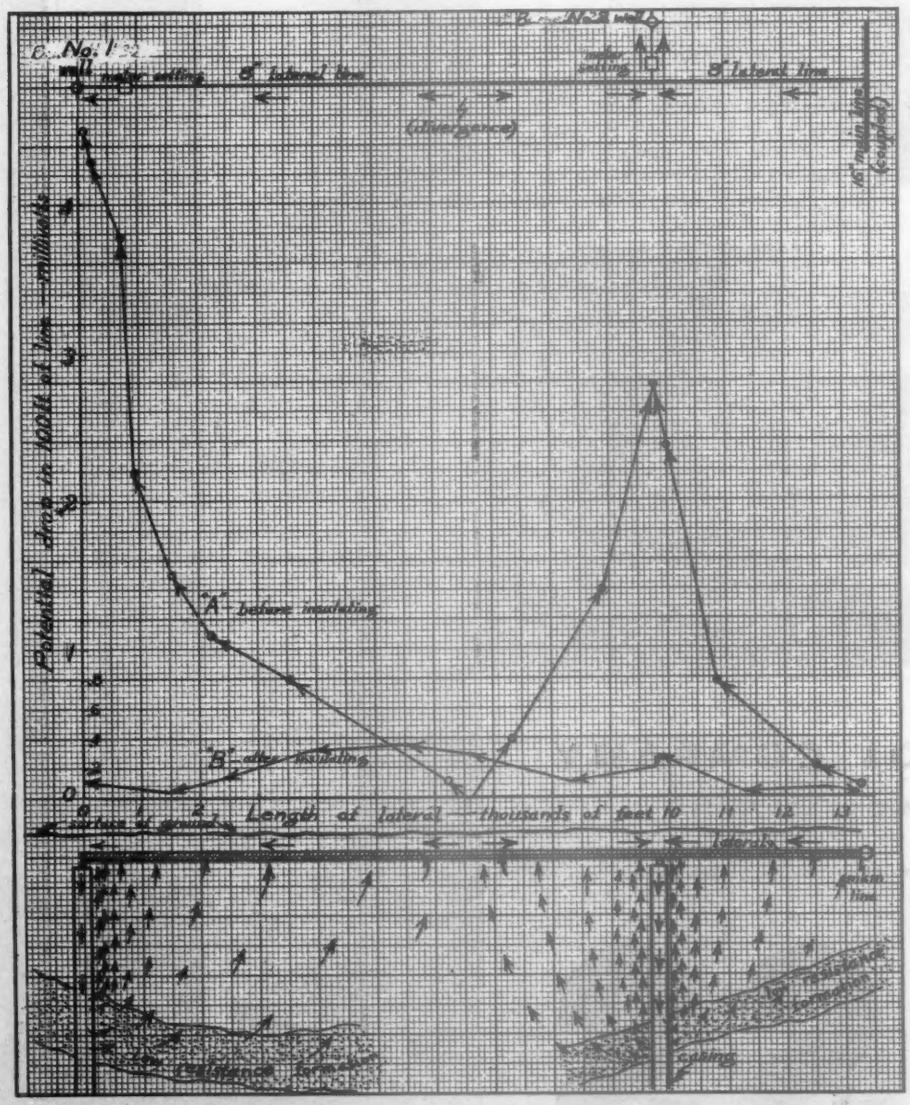
Accordingly, long line current flows were observed on the lateral lines and on all of the inlet lines to the meter settings. Since the meter settings on practically all wells were located approximately 100 ft. from the well connections, the flow of direct current on the inlet lines connecting the two structures could readily be detected by spanning the inlet line with 100-ft. millivoltmeter leads. Both contacts for millivoltmeter leads could usually be established aboveground, and the potential drop and direction of flow could be accurately determined without the necessity of "spotting" lines.

The above procedure was extended to all wells of the Pampa field-gathering system, and an inflow of current was discovered on all wells except one. The magnitude of current flowing was readily calculated from Ohms law, which states that the amount of current flowing in a conductor is equal to the potential drop divided by the resistance of the conductor. The maximum observed inward flow of current for an individual well was 3.15 amp. Thirty-nine wells were receiving an inward flow of current in excess of 0.50 amp., 19 wells were receiving an inward flow in excess of 1.0 amp., and 3 wells were receiving more than 3.0 amp.

Having observed steady current flows of considerable magnitude over the entire portion of field under test, it was decided to extend current readings until the source of flow was determined. Millivolt drops were therefore observed over 100 ft. of lateral line, beginning at the well and reading about every 600 ft. along the lateral until the main line was reached. About 80 per cent of the main lines in this system are coupled, so no further tests were made after reaching the main lines.

After plotting the observed millivolt drops against distance, we noticed in every case that the surface lines were receiving an enormous "pickup" in close proximity to the wells. Refer to curve *A* in the accompanying diagram. The steepest gathering data was usually within 2,000 ft. of each well.

Obviously the current was circulating in a continuous path as indicated in the lower portion of the diagram. This may at once be recognized as a simple battery circuit—the positive electrode being formed by the lateral pipe line, the negative electrode being formed by the well casing, and the "solution" being comprised of the soil adjacent to the two structures.



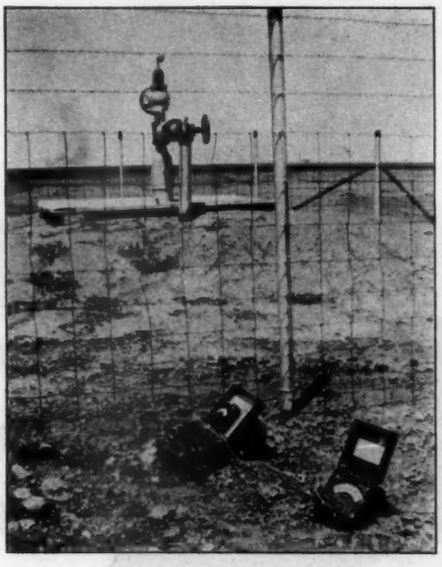
Interaction of gas-well casing and lateral lines in the Pampa, Texas, field

No Corrosion Leaks

Having accounted for the source of current and determined the behavior of flow on several lateral sides, it was now even more evident that the well casings were being subjected to a steady discharge of current with accompanied loss of metal while the lines were actually receiving protection against corrosion. A check on pipe-line records revealed that not a single corrosion leak had occurred on the Pampa system since the lines were laid. This includes both lateral and main lines. Most of the lines have been in service longer than 10 years and are known to traverse occasional "hot spots."

By comparing the operation of an ordinary battery when the external circuit is disconnected, it seemed only reasonable that the circulating currents between casing and lines could be corrected by merely disconnecting the line from the well and installing a suitable insulator. Accordingly, the two wells shown in the diagram were disconnected, a Dresser insulating coupling was installed in each line approximately 20 ft. out from the wells, and the millivoltmeter observations over the lateral lines were repeated. This set of readings is graphically represented by curve *B*. By comparing the current magnitudes represented by the two curves it may be seen that the insulating procedure was 100 per cent effective in blocking the current flow.

This method of preventing electrolytic corrosion is by no means new. Systems of insulating have been used successfully for perhaps 30 years in combating electrolysis from direct-current-generating plants, electric railways, and other external and local sources. Structures receiving relatively high charges of electrical currents have become anodic to the surrounding soil and have discharged



Left: Insulator on the inlet meter line approximately 20 ft. from the well. Test wires were brazed on both sides of insulators and extended to surface of ground to permit accurate testing. Right: Wheatstone bridge connected between test leads to measure resistance

the currents with accompanied losses of metal. Repeated and costly failures have occurred, despite the fact that certain analyses indicated that soil conditions were "noncorrosive." Yet a carefully planned insulating procedure has corrected the trouble at the source by eliminating the presence of stray currents entirely, and the structures have lasted a lifetime with no replacements or repairs incidental to corrosion.

Having noted the results of insulating the first two wells, it was decided to insulate the entire field-gathering system and then test all insulators to make sure they were installed properly.

Obviously such an insulator may be tested by one of three methods. Perhaps the quickest and most infallible method is to connect a low-range-indicating d.c. ammeter across the two test loads. If the insulator is installed propertly, the interaction beween pipe lines and casing will be reestablished and the ammeter will indicate a steady flow of approximately 0.25 to 4.50 amp. If the insulator is not functioning properly the ammeter will register no current flow. The ammeter test may be supplemented by a millivoltmeter test, for if an inlet line is properly insulated a two-pole battery exists on open circuit. Open-battery voltage is determined simply by connecting a voltmeter across the terminals. By connecting a millivoltmeter across the insulator test leads, an "open" can readily be identified. A potential difference of approximately 70 to 420 mv. will be observed if the line is properly insulated, otherwise little or no deflection will be observed when the millivoltmeter is connected across the test leads.

All Wells Insulated

In addition to an ammeter and millivoltmeter, a Wheatstone bridge was connected between test leads in order to determine the change in resistance. This method of testing is rather slow and is not always reliable. The ammeter test or the millivoltmeter test may be checked further by observing millivoltmeter drops over 100 ft. of inlet line. The test lead farthest from the well may be used for one connection. Successive connecting and disconnecting of the test leads will produce extreme differences in millivolt drops if the line is perfectly insulated. It will be noted that in every case the well casing is negative in polarity relative to the meter inlet line.

It is imperative that all wells be 100 per cent insulated in the case of more than one well being connected to a lateral line. It was suspected that the current inflow to a noninsulated well would be accelerated by insulating all other wells connected to the same lateral. This determination was easily made by bonding the test leads on all but one of the insulated wells on a lateral line and noticing the increased readings of an ammeter connected across the remaining insulated well.

All other lines, such as service lines, should be insulated if they are connected to the well ahead of the insulator. All insulators should be tested about once every year to make sure that no undesirable conditions have become established to cause further trouble.

The two wells that developed casing failures were tubed and packed at a cost of approximately $2,500 each. The cost of conducting a survey, installing an insulator and testing amounted to $14.50 per well. Although substantial savings will undoubtedly be realized by this insulating project we are convinced that results would have been incontrovertible had the system been placed in service when the wells were first connected. It is therefore believed advisable to conduct an extensive survey if such a survey is required to trace the source of trouble in localities where corrosion losses are in evidence. Expensive repairs and replacements can very often be forestalled by taking the proper precautions in advance.

SAFETY - Holdback Line Helps Support Swivel

Introduction of the rathole for storing the kelly joint and swivel while coming out of the hole was a great aid to safety on drilling rigs as men were frequently injured tying the kelly in the derrick and handling the sea links. Standing the kelly in the rathole has also been found to introduce a source of danger but rotary crews have developed methods of eliminating it.

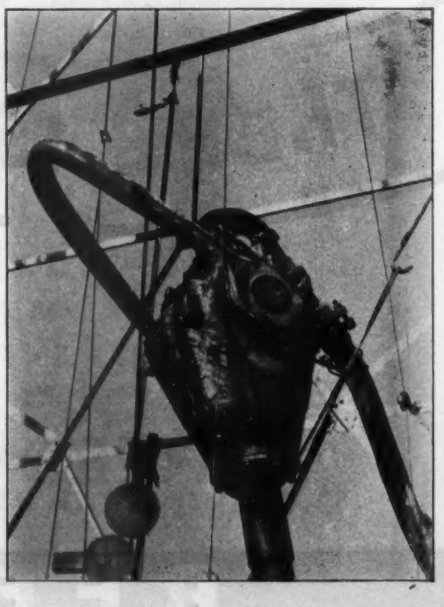
Due to the ratholes being drilled at an angle, the swivel projects out over the floor. The angle of the hole allows the kelly to slip into the rathole easily, with the swivel projecting out over the floor, it is much easier to latch the hook in it. If a rathole is drilled too straight, there is a constant danger of the kelly fouling as it is lowered into the hole and the swivel bail jumping from the hook; the subsequent dropping of the kelly, due to vibration unfouling it, will kink it badly and might result in its breaking off just below the swivel.

The main source of danger is the swivel bail sticking out close to the line of travel of the blocks. A minor deflection of the traveling block from its normal path might result in its full weight coming to rest on the swivel bail, breaking it loose from the kelly and causing it to fall to the floor. Exactly this type of accident has caused several back-up men to lose their lives when they were struck by the swivel.

Most back-up men will turn the swivel bail toward the side of the derrick by pulling the mud hose toward the V-door and tying it with the snub rope.

With deeper drilling, swivels have increased in weight and those used on deep tests are heavy enough to cause bending of the kelly joint about 10 ft. down from the swivel. Rotation with a crooked kelly will cause the traveling block to swing about and the derrick may become unsafe due to the excessive vibration. The wobbling effect is also transmitted to the drill pipe below and much damage is done to the tool-joint threads with eventual washing out of the joint. It is therefore essential the kelly have no kinks.

On one of the deepest tests in the world a rather ingenious device is rigged up to help hold the swivel out of the way and at the same time prevent bending of the kelly. A loop of ¾-in. sand line is placed around the kelly just before lowering in the rathole. A hook attached to a line running through a snatch block in the derrick is placed in this loop and tightened, thus relieving the strain from the kelly; at the same time the swivel bail is moved to a safe position. Workmen and equipment are thus protected.



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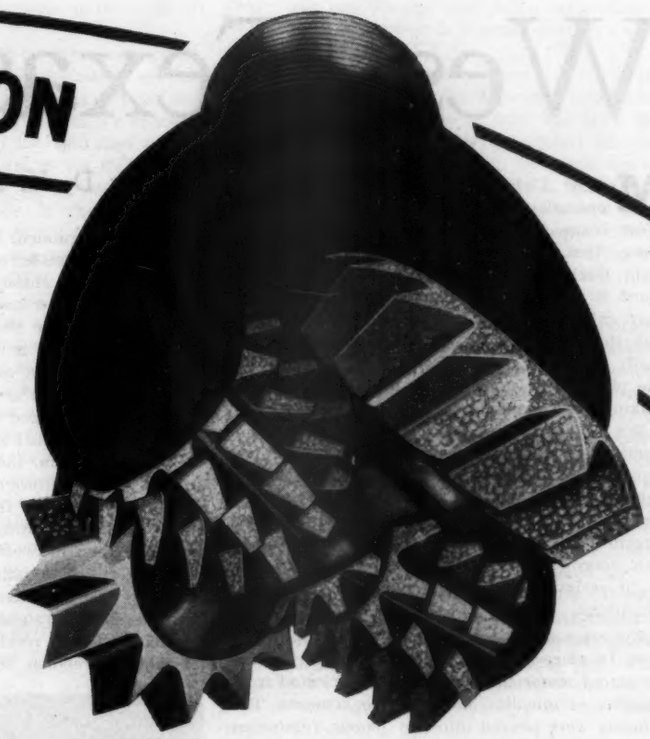

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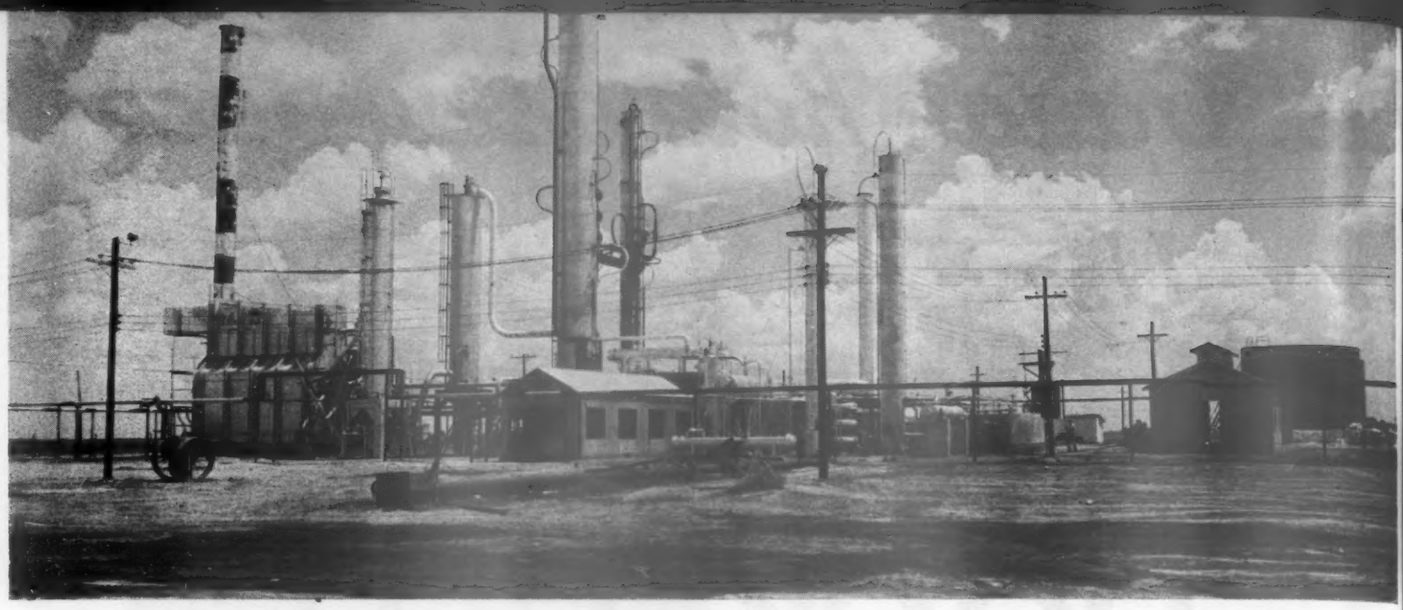


Motor Fuel Corp.'s new 4,500-bbl. refinery near Levelland, Tex. At left is shown the combination cracking and skimming unit. In the

Motor Fuels Refinery Is West Texas Crude

By D. H. STORMONT

MOTOR FUELS CORP. recently placed in operation a new refinery near Levelland, West Texas. It was especially designed for handling West Texas crude, and particularly crude from Hockley and Cochran counties. The new plant is extremely flexible in operation. It not only can make a variety of finished products, but the specifications of all products can be easily controlled to suit demand. One feature of the plant is its high degree of instrumentation, making for accurate and automatic control.

The new refinery is of the Dubbs combination topping and cracking design with a straight-run capacity of 4,500 bbl. daily and a cracking capacity of 3,000 bbl. daily. Construction was started on March 25 of this year and the plant placed on stream July 11. In general, the new combination unit conforms to U.O.P. design and flow with slight variations and additions to cope with local conditions.

The cracking heater is of the upshot, split-flow type. In place of the conventional fire brick and refractory materials, the heater is fabricated from haydite, vermiculite and luminite cements. The cements were poured into 5-in. panels, reinforced with steel and suspended from the furnace framework: This type of construction offers very economical furnace design by making possible lighter steel framework and simpler erection, and yet very efficient insulation is attained.

The latest type oil-temperature controller is used on the transfer or outlet temperature of the crude leaving the cracker. This control synchronizes the heater outlet temperatures of the split streams by altering the volume of gas going to the burners, which in turn is interconnected with flow-control valves on the oil inlets to the heater. A three-way valve placed in the fuel line permits the amount of heat transmitted to the oil in both the heating and soaking sections to be predetermined and regulated. If too much or too little heat is being transferred to the oil in the heating section, through automatic controllers the valve shifts in the proper manner to allow less or more fuel to be fired to that bank. Heat transfer in the soaking section is regulated in a like manner so that an excellent overall control of the heating cycle is had. Flow controllers regulate the amount of oil charged to each side of the heater.

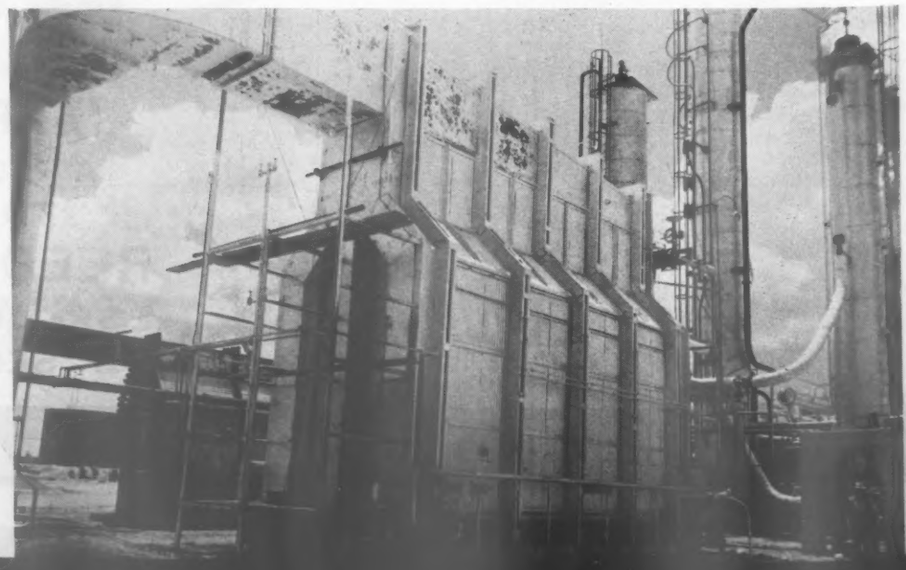
In addition to this Foxboro potentiometer Stabilog control system, the crude charge to stills is regulated by a differential flow controller directly connected to the fractionating column level. Other automatic controls installed include: Residuum level and drawoff in flash chamber, reflux supply for fractionating towers (topping and cracking) and stabilizer column top temperature, liquid levels in straight-run gasoline receiver and cracked distillate receiver, and the liquid level in stabilizer reboiler and absorption column.

The plant's crude supply is obtained from the Slaughter and Duggan fields through a 34.5-mile, 4-in. line to the plant. This crude, while a typical West Texas sulfur crude, contains a very high gasoline content as is revealed by Tables 1 and 2. A yield of 34.7 per cent straight-run gasoline is obtained and a cracked gasoline yield of 42 per cent is had from the topped crude, for an overall yield of 58 per cent of 70-octane or better gasoline.

The raw crude contains approximately 1.89 per cent sulfur. Thus to remove these compounds and facilitate the extraction of corrosive salts, solids and b.s. from the crude before they have an opportunity to attack the vital parts of the refining equipment a salt settler was provided. The settler is operated at 225° to 250° F., and reduces these undesirable components to well within safe working limits.

Flow ummary

Crude from storage is picked up by a four-stage steam-turbine-driven crude charge pump, moved



Heater on the 3,000-bbl. cracking unit, and on its left the topping unit

...ater is seen the rundown tankage and additional tankage in the background. On the right is shown the copper chloride sweetening unit

Designed for

through a vapor-to-crude, shell-type heat exchanger (750 sq. ft.) and into the salt settling tank which is 5½ ft. in diameter and 38¼ ft. long. Overhead vapors from the fractionating column are used to heat the incoming crude. From the salt setter flow is through residuum heat exchanger and into the heater of the topping unit, which is composed of 42 3-in. by 2½-in. by 23½-ft. tubes. Piping is so arranged that any proportion of the crude charge desired may be cut directly into the cracking unit, thus bypassing, wholly or in part, the topping unit. This feature, of course, adds to the flexibility of the unit.

From the topping heater flow is direct to the crude-stripping tower, where a straight-run water-white gasoline is taken off overhead and passed through one section of the main condenser box, thence to the straight-run gasoline receiver and to storage. Provision is also made for taking off a distillate and gas-oil cut if desired. The topped crude then flows from the bottom of the crude-stripping tower directly into the cracking unit fractionating tower. Dimensions of this tower are 6½ by 65 ft., 10-in., and contains 17 bubble decks and 8 side-to-side pans. Flow of oil from the base of the stripper is controlled by the liquid level in its base through means of a liquid-level controller. Arrangement is also made for bypassing the stripper with a portion of the charge if so desired, in which case the crude enters the fractionator with the bottoms from the base of the stripper.

The hot-oil pump, 3 by 10-in., five-stage, direct driven by a 155-hp. steam turbine, takes suction from the bottom of the fractionating column and delivers the topped crude directly to the cracker. The heater, as stated, is of the split-flow upshot type and contains 54 tubes 3¼ by 2⅛ in. by 26 ft. and 35 tubes 3¼ by 2⅜ in by 26 ft. From the cracking heater, crude is then taken to the reaction chamber and into the flash chamber, both of which are of conventional design. Residuum or fuel oil is taken off at the base of the flash chamber by a 7½ by 4½ by 10-in. duplex steam pump, moved through the residuum heat exchanger, through a cooler and thence to storage. Overhead vapors from the flash tower pass directly to the fractionating column.

Cracked gasoline is taken overhead from the fractionator through an 8-in. vapor line, through the vapor-to-crude heat exchanger and through one section of the main condenser box; thence to a distillate receiver drum. The fractionating chamber is provided with three drawoffs which permit, by varying operating conditions, the draw-off of almost any desired specification naphtha, tractor fuel, furnace distillate or diesel fuel.

Stabilizer Column

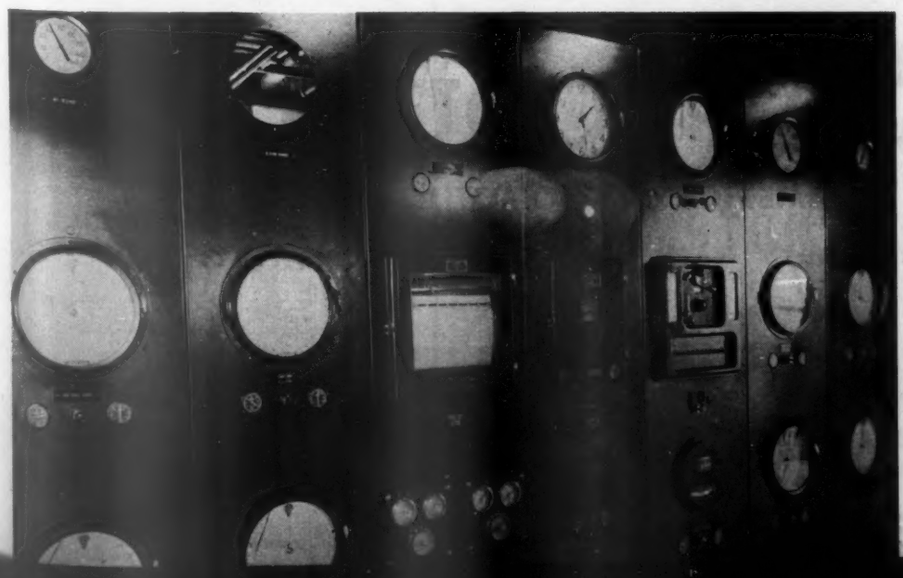
The stabilizer charge pump takes suction at the distillate receiver drum, pumping the cracked gasoline fractions through the stabilizer charge heat exchangers and into the 28-plate stabilizer column. Heat for the operation of the stabilizer is supplied by a stream taken from the hot-oil pump suction line at the base of the fractionator. Light ends from the stabilizer are removed through a 3-in. vapor line, passed through a condenser and into the stabilizer reflux accumulator. Refluxing of the tower is accomplished in a conventional manner.

Bottoms from the stabilizer pass to the reboiler which further separates the light ends to produce a stabilized gasoline. The reboiler oil, after circulating through the reboiler, is pumped into the raw-crude charge line between the crude heater and the stripping tower or between that tower and the fractionating column. The stabilized gasoline passes through the stabilizer heat exchangers and coolers and to storage. Or, as will be explained later, it is run directly through the treating and inhibiting plant to tank cars.

Gas is removed from the system at three points: the straight-run gasoline receiver, the cracked-distillate receiver, and the stabilizer-reflux accumulator. This gas passes into the base of the absorption column, which contains 12 decks, where it is washed with a countercurrent flow of cooled gas oil to remove all gasoline fractions. The gas oil is taken off at the thirteenth tray of the fractionating column, passed through a small stripping unit for the removal of light ends, thence through a cooler and to storage. The gas oil necessary for the absorption column is taken out of the line just ahead of the gas-oil cooler. Absorption bottoms are pumped back into the cracking system at the tenth tray of the fractionating tower. Or they are used for controlling the outlet temperature of the reaction chamber and for a wall wash, whenever necessary, in the flash chamber.

Lean gas from the absorption tower is piped to a 6½ by 28½-ft. gas holder which is also connected to an outside source of gas to make up any gas deficiency. Pressure on the gas holder is automatically controlled so that any pressure in excess of 28 lb. gage causes gas to vent to the field burner.

As stated above, cracked gasoline may be sweetened and inhibited in the same step with its refining process without the gasoline ever running to storage or being exposed to air. This is accomplished by using the stabilizer pressure to push the gasoline through the treating plant, where it is also inhibited, from where it flows to the tank-car loading rack. Thus it is possible to load out



Instrument panel for 3,000-bbl. Dubbs cracking unit

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orders directly from the refining system. This, of course, would tend to reduce evaporation losses and reducing the amount of rundown storage required, as well as completely streamlining the plant's operations.

Treating Plant

Copper sweetening is used to treat the gasoline to final specification. The gasoline is first given a two-stage caustic wash to remove hydrogen sulfide and reduce the mercaptan sulfur content. The caustic from the second stage is regenerated continuously through a counter-current tower using live steam for stripping the caustic of mercaptans. The caustic-washed gasoline is given a dilute acid wash to remove the nitrogen compounds and is then dried with activated alumina and passed through the copper reagent, consisting of copper sulfate and ammonium chloride. Gasoline at this point is perfectly sweet but is given a further treatment with a stabilizing agent, zinc sulfide, to remove any copper which may be in the gasoline. The sweet gasoline is then mixed with U.O.P. No. 4 inhibitor. The foregoing sweetening and inhibiting process, of course, is carried out in one continuous step, producing gasoline of satisfactory properties with regard to gum stability and color with practically no loss in octane value.

A plentiful water supply for the plant's operation is obtained from a well supplying 11,000 g.p.m. of 66° F. water for steam generation and cooling. Due to this cheap, plentiful supply none is recirculated under ordinary operating conditions, but runs entirely through the plant and out to the pond. Due to the plant being located only 2 miles from Levelland, purchased electric power is used.

A 10-car loading rack was built on a nearby spur for loading out tank-car shipments. The bulk plant is equipped with seven 12,000-gal. tanks for different products which are loaded into tank trucks at a two-truck loading rack. The company is now building an ethyl-blending plant so that it will soon offer three grades of gasoline, in addition to tractor fuels, diesel fuels, and fuel oils.

Officials of the new company, which was formed in the early part of this year, are: W. D. Richardson, president; T. M. Lumly, vice president; and W. W. Henderson, secretary-treasurer.

TABLE 1—LABORATORY BREAK-UP OF SLAUGHTER FIELD CRUDE

Distillate fractions:	Gasoline	Kerosene
Yield, volume per cent of crude	34.6	9.3
Gravity, A.P.I.	56.3	39.8
Vapor pressure (Reid), lb.	7.3	...
Sulfur, per cent	0.28	0.78
Kinematic vis. at 100° F., cts.	...	1.88
Universal vis. at 100° F., secs.	...	32.1
Octane number (motor method)	56.5	...
Characterization factor	11.83	11.74
100 cc. distillation:		
I.B.P.	103	404
5 per cent	140	420
10	160	427
20	195	432
30	216	437
40	235	443
50	255	448
60	275	456
70	296	463
80	321	476
90	350	495
End point	400	528
Per cent over	98	99
Per cent bottoms	1	1
Per cent loss	1	...

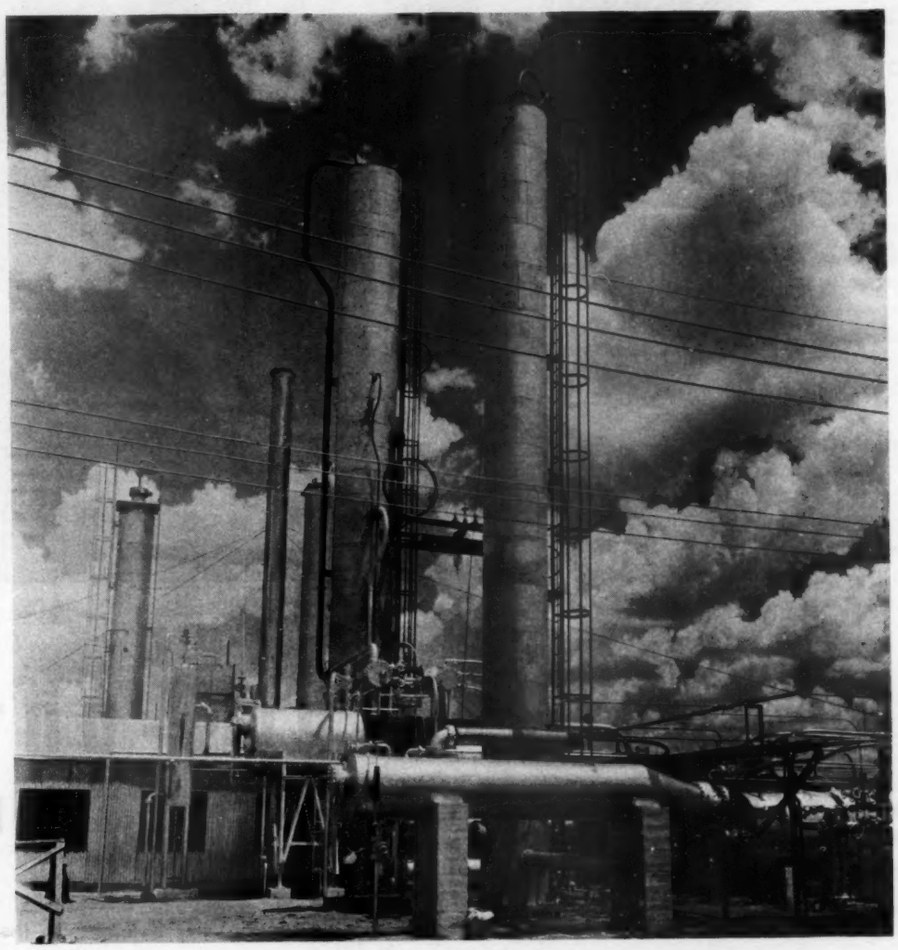
Residue bottoms:	Crude oil	Topped crude	Reduced crude
Yield, vol. per cent of crude	100.0	64.8	55.5
Gravity, A.P.I.	32.4	22.2	19.5
Pensky-Martin flash, °F.	...	210	255
Sulfur, per cent	1.89	2.55	2.79
B.s. and w., per cent	0.4	1.4	2.2
Cold test, °F.	25	55	65
Kinematic vis., 100° F., cts.	....	47.0	141.6
Universal vis., 100° F., secs.	....	218	654
Kinematic vis., 210° F., cts.	....	6.635	10.63
Universal vis., 220° F., secs.	....	47.6	61.0
Asphalt content (100 penetration) weight, per cent	....	....	45.8
Salt (as NaCl), lb. per 1,000 bbl.	122	....	....
Characterization factor	....	11.6	11.6
100 cc. distillation:			
I.P.B.	110	453	542
5 per cent	190	488	560
10	225	506	578
20	297	548	614
30	374	595	650
40	481	653	678
50	578	690	694
60	658	712	704
70	691	726	716
80	702	742	729
90	722	756	744
End point	722	756	744
Per cent over	95.0	94 0	93.5
Per cent coke, by weight	4.5	5.9	6.5
Per cent at 572° F.	49.0	25.0	8.5

TABLE 2—APPROXIMATE YIELDS OF SLAUGHTER FIELD CRUDE

Fractionation yields, volume per cent of crude:	As received	Dry basis
Gasoline	34.6	34.7
Kerosene	9.3	9.3
Reduced crude	55.5	55.6
Water	0.2	
Recovery	99.6	99.6
Loss	0.4	0.4

Cracking yields, volume per cent of reduced crude:	
Gasoline	42
Residuum	51
Recovery	93
Liquid volume loss	7
Gas, cu. ft./bbl.	420

Overall yields, volume per cent of crude (dry basis):	
Straight-run gasoline	34.7
Cracked gasoline	23.3
Total gasoline	58.0
Kerosene	9.3
Cracked residuum	28.4
Recovery	95.7
Loss	4.3



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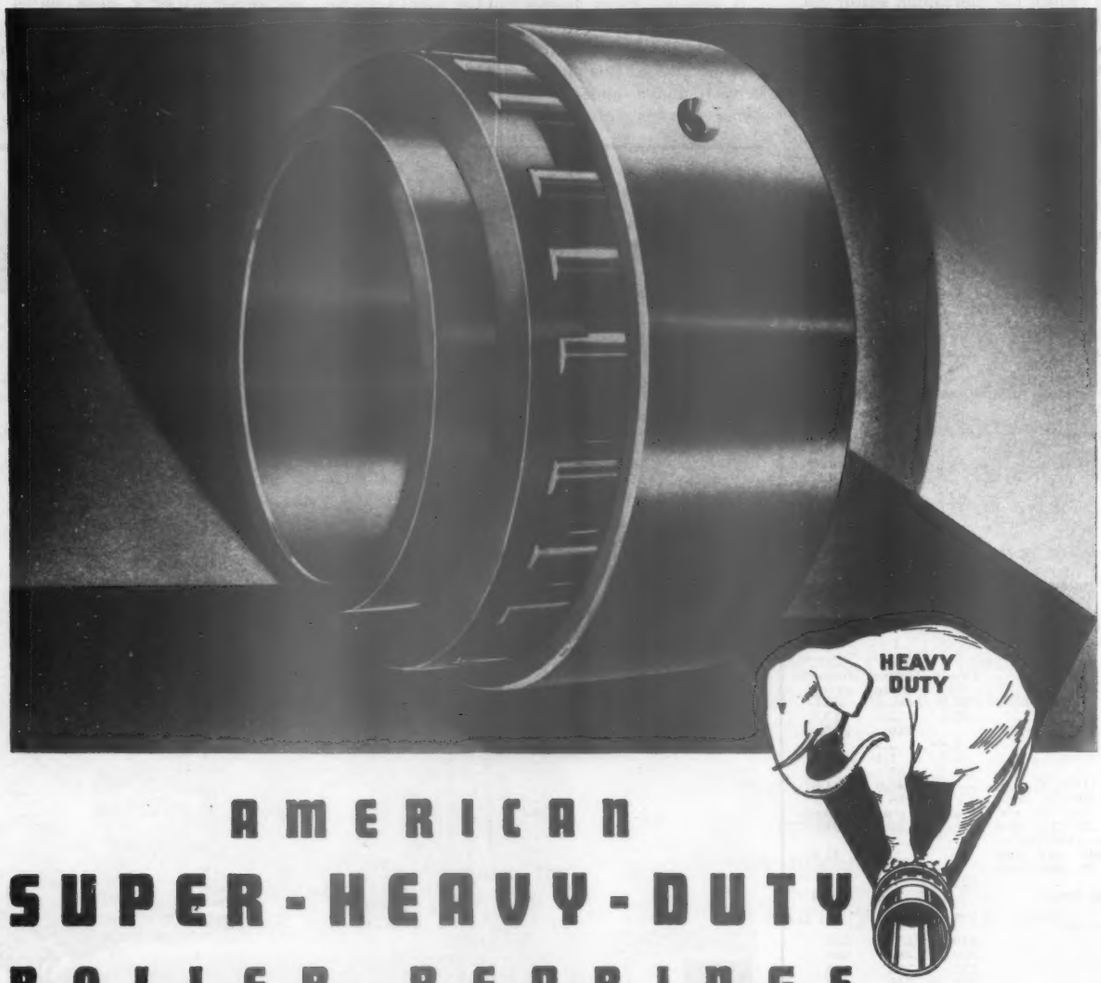

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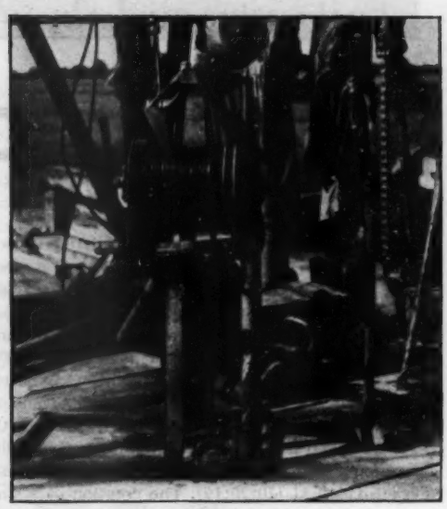
Operating Ideas

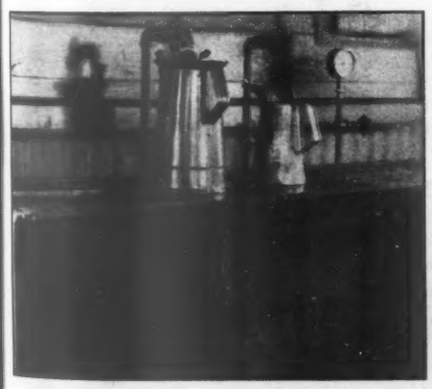
Centralizing Bypasses Simplifies Feed-Water Control

Moving the bypasses of the boiler feed-water lines from their usual location alongside the rear end of the individual boilers to a point midway between the water ends of the two feed-water pumps brings control of the exact flow to each boiler directly under the hand of the fireman and under the shelter of the roof over the pumps. This mounting of the feed-water control requires no more piping than the usual hookup. Tying in each boiler to the manifold at the pumps eliminates the unequal expansion of the header across the boilers themselves, which results in leakage or strain on the fittings. With the hookup shown, all boiler feed-water lines are laid on the ground up to a short riser. The line is supported and it does not hang on the boiler flange.



Measuring Line Mounted on Steel Stand

Drilling crews originally attached the measuring line used for running straight-hole tests to the draw-works frame where it is often in the driller's way. Lately, a wider variety of places are being used, the only restriction being that the reel be in line with the cat head so the continuous rope which drives it will run smoothly. Guide pulleys are used in some cases to direct the travel of the drive rope. This contractor has mounted his on a steel frame which can be moved about the derrick at will. The entire assembly can thus be kept intact and the only rigging up necessary is to attach the straight-hole device and hang the "crown pulley" on the elevators. The arrangement reduces the time necessary to run test and makes for smoother operation of the reel.



Storage of Lubricating Oil and Kerosene at Compressor Station

Cleanliness and safety are provided in handling lubricating oil and kerosene in this compressor station. The oil is stored in a buried length of sealed 10-in. casing, held under a slight pressure. The casing is located under the oil-storage tanks outside the building. The kerosene, stored in an underground tank, is also moved to the inside dispenser by pressure. The metal cabinet is for tools and waste.

Canal Reduces Mud Volume Required

Replacing the usual series of pits serving to handle drilling mud, a canal, 240 ft. long by 5 ft. wide, is handling mud successfully at the well illustrated. A trench 120 ft. long extends away from the shale-shaker site, reversing in a sharp U-bend to return to the suction lines of the two slush pumps. Four baffles set along the canal serve to insure mixing of the mud stream to maintain the same consistency throughout the stream; at the same time they serve to concentrate settling of cuttings, limiting the removal of fines to a few spots. Using the canal requires less than one-fourth the volume of mud usually found in pits for a similar job of drilling. A stand-by pit provides excess capacity in case of unusual mud demand.

Hydrocarbon Synthesis

. . . from carbon monoxide and hydrogen over alloyed catalysts

By I. RAPOPORT and E. POLOZHINTSEVA

Cf. Foreign Petroleum Technology 6, 215-246 (1938)
Translated from:
Khimiya Tverdogo Topliva 9, 64-70 (1938)*

As was shown by F. Fischer and H. Tropsch[1] in 1926, metals of the eighth group are best suited for a synthesis of gasoline-like hydrocarbons at atmospheric pressure.

In this group Co and Ni were found to be most active. In their consecutive investigations Fischer and others[2,3] tested additions of various elements which were activators. The numerous investigations undertaken by Fischer covering the work with precipitated catalysts made it possible to recommend the so-called "normal nickel catalyst" Ni-Mn-Al (70:20:10). The creation of a similar catalyst with cobalt did not meet with success. The most active cobalt catalyst is Co-Th (72 per cent plus 18 per cent). The latter yielded at 195° C. 142 cc. liquid products from 1 cu. m. of gas. Fischer used in this case usually the following carriers: kieselgur, "Stuttgart mass," etc.

Among the disadvantages of these catalysts may be noted their low heat conductivity (it should be borne in mind that the reaction proceeds with a considerable generation of heat).

The best catalysts for the synthesis of hydrocarbons should be active, have a good heat conductivity, be grainy, etc. Fischer and Meyer[4] were among the first to pay attention to alloyed, or, according to their terminology, skeleton catalysts.

Fischer and others have tried various alloys which contained Fe, Ni, Co, Al, and Si. As activators they added various elements, such as Cu, Mn, etc. However, according to Fischer, alloyed catalysts lose their activity more rapidly than precipitated catalysts. Alloys composed of Fe-Al, Fe-Si (1:1) have proved to be absolutely inactive; Fe-Ni-Al, according to the data of the same author, yields about 50 cc. of liquid products from 1 cu. m. of gas, and it loses rapidly its activity.

The highest yields, according to Fischer, are obtained with an alloy of Ni-Co-Si (1:1:2), the yield of liquid products in this case amounting to 100 cc. from 1 cu. m. of gas. Lately, particular attention to alloyed catalysts was paid by Japanese scientists, which is proved by a series of published reports. According to I. Murata and S. Tsuneoka,[5,6] the yield of liquid products over Ni-Co-Si amounted to 127 cc. per cubic meter of gas.

The investigations carried out by one of us together with Blyudov and others[7] have shown that the precipitated catalysts give good yields of liquid hydrocarbons, but that they have a number of substantial disadvantages. The first sample of an alloyed catalyst composed of Ni-Al was given us by Bag and Egupov. The results of the investigation carried out with this sample yielded about 50-60 cc. of liquid hydrocarbons from 1 cu. m. of gas. Already these first experiments indicated that alloyed catalysts are of great interest and deserve a very serious investigation.

All the alloyed catalysts, except the sample already mentioned, were prepared in accordance with our specifications.

We tried various ratios of the elements in the alloys and we also tried various modifications of preparation of these catalysts. We present here only a few of the results which are of particular interest. As will be seen from the material which we are going to present below the majority of the alloyed catalysts showed a very satisfactory activity. Thus, for example, the catalyst Co-Al yielded 175 cc. of liquid hydrocarbons from 1 cu. m. of gas, while the catalyst composed of 4 elements "AS" yielded 225 cc. per cubic meter.

Here we would like to point out that the alloyed catalysts are of a great general interest since they can be used successfully in the hydrogenation of various organic compounds, for the

*This translation has been submitted by the Petroleum Division of the American Chemical Society. The Petroleum Division, however, assumes no responsibility for the facts and opinions presented in this paper, nor does it necessarily endorse statements made therein.

TABLE 1

Consec. No.	Catalyst	Catalyst volume in cc.	Reduction conditions	Volume velocity	Experimental temperature in °C.	Per cent contraction	Yield of prod. per M. cu. ft. gas: Oil	Gasoline at 0° C.	Hydrocarbons at —60° C.	H_2O	Total yield of hydrocarbons in cc. per cu. m.	Cc. yield of hydrocarbon per liter of catalyst space	Ratio of liquid hydrocarbons to water	Remarks
1	Ni-Al lentils	60	In stream of pure H_2 at 350° C.	166	170	58	40	40	60	140	140	2,332	1:1	

TABLE 2

1	Ni-Al (lentil)	60	With H_2 in NH_3 stream at 350° C.	83	165	73.6	70	20	20	180	110	1,830	1:1.6	Experiments with various volume velocities of the gas
2	Ni-Al (lentil)	60	Do.	166	165	59.0	50	20	..	170	70	1,166	1:2.4	
3	Ni-Al (lentil)	60	Do.	250	165	40.7	15	20	..	115	35	583	1:3.3	
4	Ni-Al (lentil)	60	Do.	83	165	73.6	70	20	20	180	110	1,830	1:1.6	Experiments with different temperatures
5	Ni-Al (lentil)	60	Do.	83	175	80.4	40	20	..	230	60	1,000	1:3.8	

TABLE 3

1	Ni-Al powder	60	In stream of pure H_2 at 350° C.	83	175	71	42.1	21	15.8	168.5	78.9	135	1:2.1	Experiments at various volume velocities
2	Ni-Al powder	60	Do.	166	175	43	30	10	15	105	55	916	1:2	
3	Ni-Al powder	60	Do.	250	175	38.4	90.5	10.2	5.1	718	35.8	600	1:2	

TABLE 4

1	Co-Al powder	60	With H_2 in stream of NH_3 at 220°	83	200	78.2	135	30	10	235	175	2,916	1:1.3	Experiments with various velocities
2		60	Do.	166	200	60	85	40	10	170	135	2,250	1:1.2	
3		60	Do.	250	200	33.3	45	40	5	115	90	1,500	1:1.3	
4		60	Do.	83	195	72.5	100	35	5	225	140	2,333	1:1.5	Experiments with various temperatures
5		60	Do.	83	200	78.2	135	30	10	235	175	2,916	1:1.3	

TABLE 5

1	Co-Si No. 2	52.8	In NH_3 stream at 220° C.	50	220	57.6	33	60	16.6	66	109.6	2,064	1:0.6	Experiments carried out at constant temperature
2	Co-Si No. 2	52.8	Do.	94	220	50.0	33	40	9.3	19	82.3	1,560	1:1.4	

dehydrogenation of hexamethylene hydrocarbons, etc. This we are doing already. Moreover, they are more resistant to sulfur than the precipitated catalysts.

Experimental Part

As raw material we used a mixture of carbon monoxide and hydrogen at the ratio of 1:2. This mixture was carefully prepared at the above ratio and was pumped into a container to a pressure of 100 atm., and then used in the experiments.

The carbon monoxide was a commercial product containing 98-99 per cent CO, while hydrogen was prepared electrolytically or by the iron-steam method. The CO:H_2 ratio fluctuated in various containers, but it was close to the ratio given above.

Particular attention was paid to the removal of O_2, sulfur and moisture from the gases passed into the catalytic vessel. For this purpose the gas was passed through Drexel wash bottles with absorption liquids, through a tower with activated carbon and a small tower with calcium chloride. The gas mixture used in the reaction had the following composition: CO_2 0.05 per cent, O_2 0.2 per cent, CO 31.7 per cent, H_2 63.08 per cent, and N_2 4.97 per cent.

Description of the equipment.—The gas mixture, after passing through the corresponding purifiers and the rheometer, enters into the quartz tube charged with the catalyst (placed into the electric furnace), then through a special receiver graduated into 0.1 cc. cooled with ice, a carbon scrubber, and finally entering a gas meter. Part of the gas was collected in the gasometer for the analysis and the remaining portion passed into the atmosphere. The rheometer was graduated by the gas meter. The temperature of the experiment was measured by means of a thermometer placed above the quartz tube, making a thorough contact with the latter.

Quartz tubes 15-16 mm. in diameter, with a constant catalyst layer of 30 cm. were used in testing the catalyst. Because of the pyrophoric properties of the alloyed catalyst after the washing, its introduction encountered great difficulties, and therefore should be carried out very carefully.

The catalyst is reduced with hydrogen after charging. The duration of reduction generally fluctuated from 12 to 36 hours at temperatures from 220° to 350° C., depending upon the catalyst.

Some of the catalysts were reduced in a stream of ammonia, but ammonia was removed by blowing before the operation. The reduction of the catalysts with ammonia had a beneficial effect on some of the catalysts except Ni-Al, i.e., their activity was higher. In each experiment 70-100 l. of gas was passed. The products of the reaction condensed in the receiver at 0° C. we classified as light oil, liquid hydrocarbons obtained in the carbon scrubbers at 0° C. were called gas gasoline, and those at —60° C. hydrocarbons (gas oil). In the distillation of the gas gasoline and gas oil from the scrubbers with superheated steam all products were usually condensed in a special measuring burette at 0° C. and —60° C. Here some gas always collected in the gasometer, the analysis of which showed that it contained saturated and unsaturated hydrocarbons of the fatty series with one to three carbon atoms, which we did not include in the total yield.

As may be seen from the data presented below, quite a number of alloyed catalysts gave quite high yields of liquid products. By the total yield of liquid products, alloyed catalysts are but little different from the precipitated catalysts, although the latter are also of great interest.

1. The Ni-Al catalyst was prepared in two modifications: as a lentil and as powder. After the washing out of NaOH to almost the complete disappearance of Al and after the corresponding washing to a negative reaction with phenolphthalein the catalyst was reduced with hydrogen. Then the gas mixture was passed over the catalyst.

The obtained results are summarized in Table 1.

As may be seen from these data, the yield of liquid products as 150° C. amounts to 140 cc. per cubic meter of gas at a volume velocity of 166. The ratio between the liquid hydrocarbons and the water amounts to 1:1.

The same catalyst, although reduced in a stream of NH_3, gave a considerably lower yield of liquid products, namely 110 cc. per cu. m. of gas at a lower temperature and a low volume velocity (Table 2). Its test carried out at various temperatures showed that an increase of temperature at the same volume velocity gives a lower yield of liquid hydrocarbons. Experiments carried out with an increase of the volume velocity at the highest reaction temperature showed that with an increase of the volume velocity the yield of liquid hydrocarbons decreases, since at a volume velocity of 250 the yield of liquid products decreased 3.15 fold.

Upon analyzing the data in Table 1 and 2 we may see that the reduction in the presence of NH_3 is shown on the Ni-Al catalyst in an unfavorable direction, the best results being obtained with a Ni-Al catalyst reduced in a stream of pure hydrogen.

Tests carried out with powdered Ni-Al catalysts (reduced in a stream of pure hydrogen at 350° C.) at the highest temperature of 175° C. and at different volume velocities showed that the highest

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yield, amounting a 78.9 cc. per cubic meter of gas was observed at a temperature of 175° C. and a volume velocity of 83 (Table 3). Further increase of the volume velocity has a negative effect on the yield.

On comparing the results of tests carried out with a lentil-shaped and a powdered Ni-Al catalyst, we may see that in its activity the lentil-shaped catalyst is considerably better. Therefore all the consecutively tried catalysts were lentil-shaped.

2. The Co-Al catalyst was washed and reduced with hydrogen in a stream of ammonia during 3 hours at a temperature of 220° C. The ammonia was then completely removed by blowing with pure hydrogen.

Experiments carried out at temperatures of 195° and 200° C. have shown that at the same volume velocity, the highest temperature is 200° C., where the yield of liquid hydrocarbons reaches 175 cc. per cubic meter of gas (Table 4). With an increase of the volume velocity at the highest temperature the yield decreases. Thus with a threefold increase of the volume velocity, the yield of liquid hydrocarbons decreases two-fold

On comparing these two catalysts (Ni-Al and Co-Al) it is clear that the latter, by the yield of liquid products, is almost equivalent to Ni-Al. However, the yield of liquid products with the Co-Al catalyst reaches the maximum only at 200° C. at the same volume velocity, while with Ni-Al this temperature lies at about 170° C. At a volume velocity of 83 at 200° C. the Co-Al catalyst gives a considerably higher yield of liquid products.

3. The Co-Si catalyst, in contradistinction to the two first catalysts, is washed out with much greater difficulties. Its reduction was carried out at 220° C. in a stream of ammonia, followed by a complete removal of the latter by blowing.

A test of the Co-Si catalyst has shown that its maximum temperature is 200° C. Experiments carried out with different volume velocities (Table 5) have shown that the yield of liquid hydrocarbons decreases with the increase of the volume velocity. It reaches its maximum of 109.6 cc. per cubic meter of gas at a volume velocity of 59. A substitution of aluminum with silicon affects the washing (the washing process is considerably slowed down) and the composition of the products. Already in their appearance the liquid products show that solid paraffins are obtained with this catalyst in greater amounts.

On comparing the tests carried out with the three catalysts it becomes evident that in their yields of liquid products they can be arranged in the following order: Co-Al, followed by Ni-Al, and finally by Co-Si.

Conclusions

All the submitted material permits to draw the following conclusions:

1. We have investigated the following three catalysts: Ni-Al, Co-Al, and Co-Si.

2. According to the yield of liquid hydrocarbons, first place is occupied by Co-Al, the yield of liquid products in this case reaching 175 cc. per cubic meter of gas at a volume velocity of 83.

3. Of the investigated types, i.e., of powder and lentil-shaped agglomerates, the latter is the more active.

In the experimental part of the investigation E. A. Vlasova participated.

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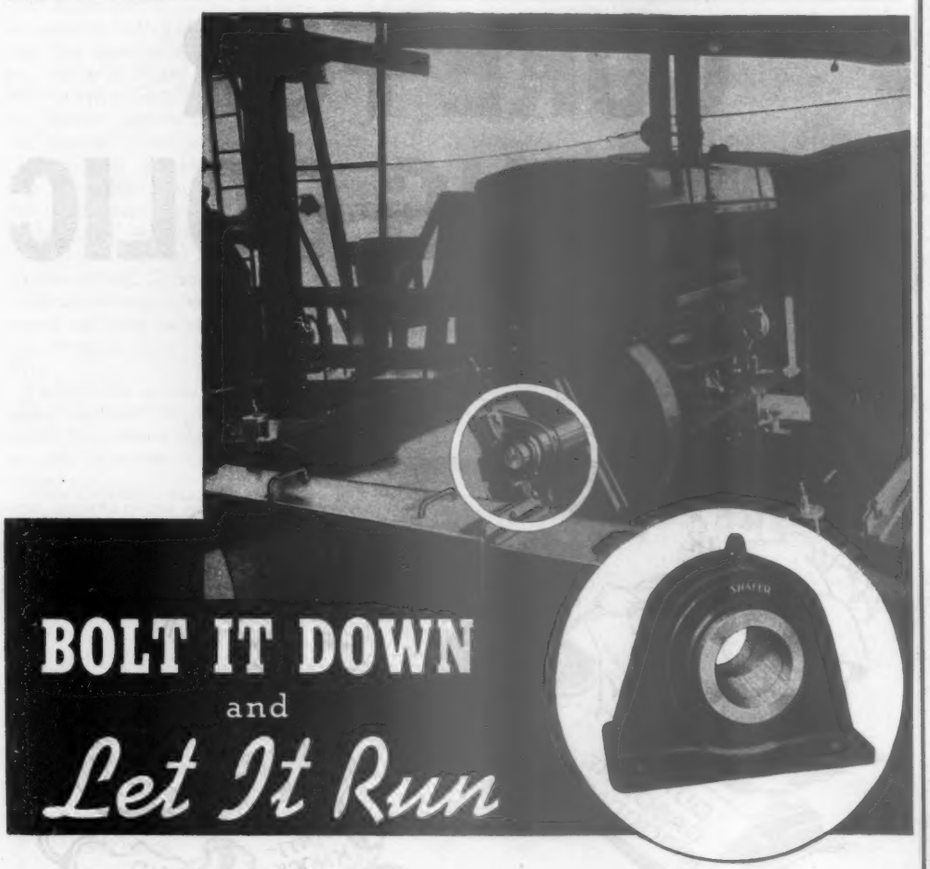

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Wrinkle bending of gas pipe line

"THE CHIEF" tells "SONNY" about his visit to the New York World's Fair

SONNY: Haven't seen you around the last few weeks, Chief. Where've you been?

CHIEF: Well, I'll tell you, Sonny. I been itchin' for a little vacation for some time. So a couple of weeks ago, I bundled Madge and the boys into the car and set out for the World's Fair in New York.

SONNY: Gosh, Chief, you must have had a wonderful time!

CHIEF: You bet I did. And would you believe it, the first thing I ran into was a rotary rig operating on a 200 foot derrick—right on the Fair grounds. And doin' business, too.

SONNY: Well I'll be jiggered! That sounds like the postman who took a walk on his vacation.

CHIEF: Yes, it does sound funny. I no sooner quit the derrick, and what do I run into but the Roebling Rope Exhibit in the Metals Building. Better still, who was there but Big Bill from The National Supply Company.

SONNY: I give up, Chief. It sounds like a fairy story to me.

CHIEF: Well, Sonny, talking about fairy stories, I used to think Bill told a few every now and then, when he'd keep harping on the uniform high quality of Roebling's Blue Center Rotary Drilling Lines—and what they did at the plant to insure that high quality. But Bill yanks me out to the plant in Trenton, and I'll tell you, after seeing how those Roebling Boys make rotary drilling lines, I guess Bill was right after all.

SONNY: Don't tell me you fell for any selling talk, Chief?

CHIEF: Not at all, Sonny. This is something I saw with my own eyes. I'll tell you, it was mighty convincing to me, when I saw how carefully they make the rope steel in little open hearth furnaces; keep watching it as it bubbles away; adding a pinch of this and a pinch of that—how they keep checking this and checking that, all along the line, right up to the Shipping Department. And then the Research Laboratory, Sonny—one of the most modern in existence, I understand. When I saw their big testing machine tear a 4 inch rope apart, as if it were a piece of twine—well, Sonny, I voted it a day well spent!

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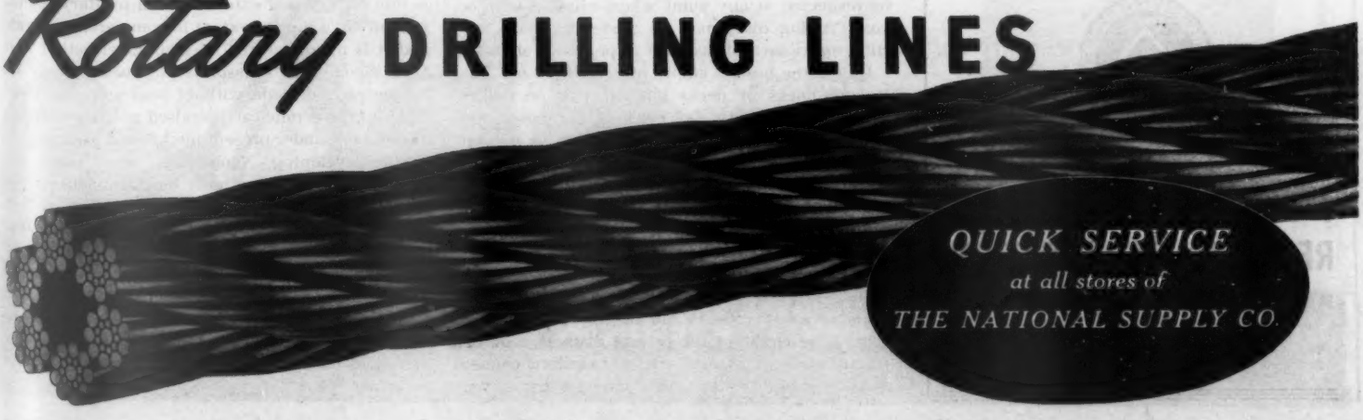

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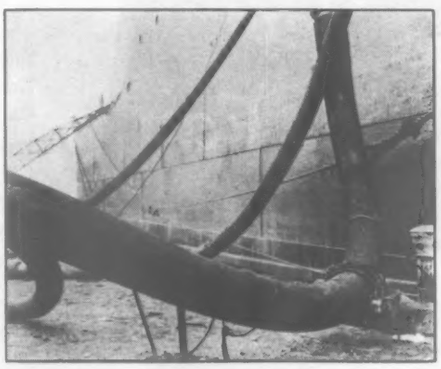
Use, Handling and Storage of Oil-Dock and Cargo Hose

By MICHAEL BERMAN
Technical Superintendent, Hewitt Rubber Corp.

All hose should be rated according to its suitability for certain classes of service. Class A service involves handling volatile or hazardous fluids such as gasoline, crude oil, kerosene, light and intermediate distillates. Class B service is designated for handling nonvolatile or nonhazardous fluids such as heavy distillates, heavy fuel oil and asphaltum.

The condition of the hose as determined by routine inspection establishes the class of service for which the hose shall be used. The class designation should be painted on each nipple of each length.

When transferring oil the tanker and hose are to be completely bonded according to the best practical methods. Pumps should be adjusted to keep pulsation at a minimum. Air chambers are to be kept full during entire operation. Pumps should be regulated so that the pressure on the hose does not exceed 100 lb. and should be equipped with relief valves set at 125 lb. These valves should be inspected frequently. Oil temperatures should be kept below 150° F. (66° C.). The hose should not come into contact with any hot surfaces, such as steam pipes. A constant attendance should be kept on hose during loading or unloading operation. The men performing this duty should be able to take any action necessary to protect the hose. The outside of the hose should be protected at any point where chafing may occur. Chafing mats may be made from old hose slit lengthwise and fastened at points of abrasion.



Loading a tanker. Note the wooden block lashed to the hose in the foreground to protect it in case it was lowered to the ground as the tanker filled and the hose continued in use

Unless the hose is amply protected, do not drag it over docks or decks but carry it on dollies, rollers, or derricks. Do not roll the hose more than one revolution unless supported to prevent flanges rolling faster than hose. When the hose is suspended, the distance between supports should be not more than 12 ft. The minimum radius of bend should not be less than 12 times its diameter; i.e., an 8-in. hose should not be bent to a radius less than 8 ft. Never support a hose with a single rope sling. Use saddles or bridles made of wood, rope or old hose. Length of support to be equal to three hose diameters. Avoid sharp bends at nipples and at manifold connections. Arrange for sufficient hose so that it will not become taut due to change of ship position.

Extreme care is to be used when disconnecting the hose. Do not permit the hose to fall to dock or deck. Protect faces of flanges. When impractical to completely disconnect hose, drain out oil and cover hose to protect surface from sun and weather.

Hose in service should be tested at least once every 60 days. If hose has been subjected to severe abuse or unusual strain, make complete tests before returning to service. New hose and hose taken from storage should be tested before using. The manufacturer's affidavit may be accepted in lieu of testing. All testing is to be done according to specifications provided for that purpose. Classifications of hose is based on results of these tests. Mark class on each length when tested.

Hose used in Class A service should be dried out by permitting air to circulate through it. Hose in Class B service should be inclined with both ends open to permit drainage. When necessary to store hose for more than 2 weeks, it should be flushed out with water before storage. Store hose straight and flat in a cool, dark, dry place. Keep hose covered to protect it from the direct rays of the sun.

A carefully supervised record of each hose should be kept either on a card or in a logbook. The record should include:

Date received	Size	Rubber covered
Hose number	Length	Fabric covered
Class	Type fittings	Wire armored
Mfrs. name	Description	Rope armored
Brand and serial number	Rough bore	Date first put in service
	Smooth bore	

After each loading or discharging operation, make detailed entry on hose record. The entries should show date, hours in service, barrels loaded or discharged, name of ship, type of cargo, and any remarks regarding condition of hose. Accumulated hours of service must be recorded for each hose.

Results of routine examinations and class change should be recorded with date and details.

Phillips Announces Neohexane As New Aviation Fuel

The Phillips Petroleum Co. comments as follows regarding its new "Neohexane" as a high-octane aviation gasoline. "One-hundred-octane gasoline is now being used extensively in military planes, but only to a limited extent in commercial aircraft, and it is manufactured by adding tetraethyl lead. With Neohexane, a gasoline of approximately 100 octane can be made without lead and when lead is added the octane can be raised to what would be 115 or more under present methods of testing.

"In developing Neohexane, our researchers found that it could not only be manufactured economically in commercial quantities but that it could be made from raw materials occurring plentifully in crude oil and natural gas, assuring an adequate supply. We are now manufacturing it in a small pilot plant in sufficient quantities for long test flights, but a plant for large-scale commercial production is being erected at Phillips, Tex., and the new product will be on the market early next year."

Wyatt's WELDED PIPE IS THE MOST PRACTICAL AND ECONOMICAL SURFACE CASING ON THE MARKET!

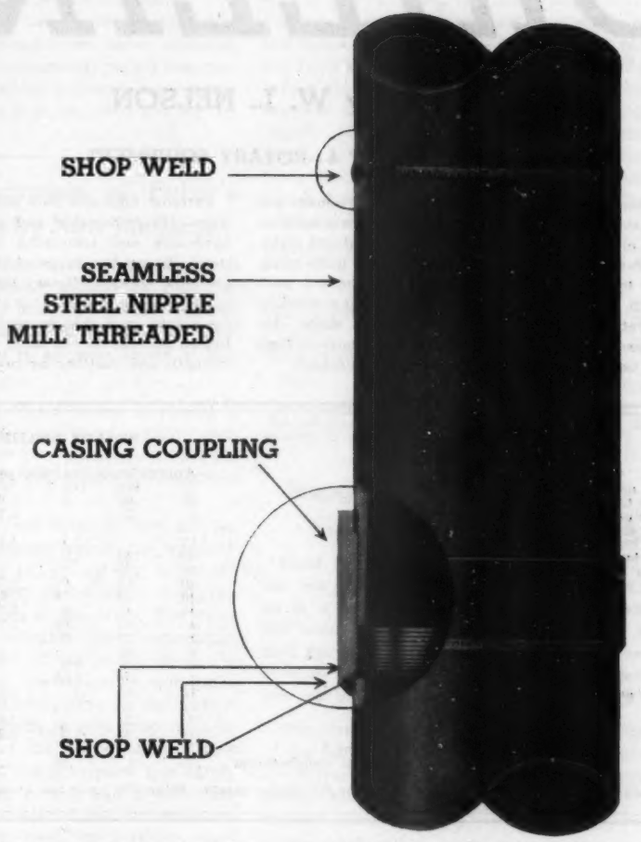
WYATT'S threaded and coupled surface casing has eliminated the need for expensive, heavy string. It is furnished with bell and spigot ends, plain ends for butt welding, or prepared ends for Victualic or Dresser couplings. All thread on nipples and couplings are **mill precision cut,** insuring perfect casing make-up. Special threaded nipples and couplings are shop welded inside and outside to WYATT'S welded pipe. Use standard casing slips and elevators . . . because the outside of this pipe is as smooth and of the same O.D. as mill casing.

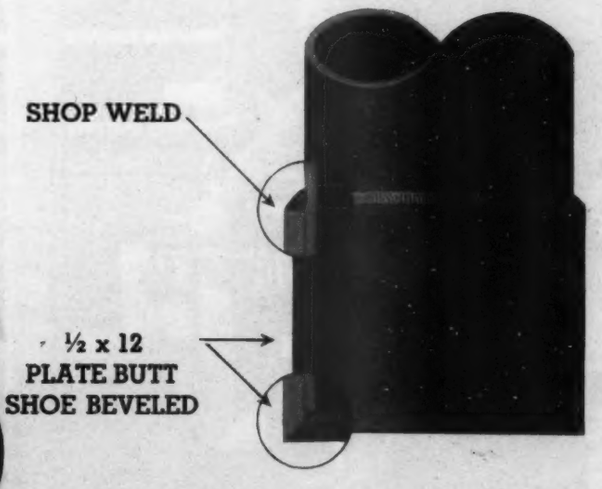
Furnished in approximately 30' lengths with I.S. and O.S. thread protectors and/or butt shoe at no extra charge. Sizes range from 10¾" O.D. to the largest diameter desired . . . and wall thickness is optional.

Use this pipe for short surface strings, and for the top part of long strings, screwed into heavier mill casing for the lower part. The collapse controls the setting depth . . . not tension. Table below gives approximate depths for top part of long strings, and length of short strings:

SIZE	Wall Thickness (Inches)	Weight per Foot (Pounds)	Factory Test Pressure (Pounds)	Approximate Setting Depths (Collapse)
13⅜" O. D.	0.25	35.05	598	390
16" O. D.	0.25	42.05	500	210
18⅝" O. D.	0.25	49.05	429	150
20" O. D.	0.25	52.75	400	120

Above sizes in stock at: Houston, Beaumont, Lake Charles, New Iberia, Houma





WYATT METAL & BOILER WORKS • PLANTS AT DALLAS AND HOUSTON

METALS in DRILLING

By W. L. NELSON

PART 4—ROTARY EQUIPMENT

The following article has been preceded in the series by articles entitled: "Portable Servicing Equipment," August 10, 1939; "Slush Pumps," August 24, 1939; and "Rotary Cha'n," September 7, 1939. The steels listed here were recommended by various manufacturers.

The entire rotary setup is subject to severe loads and heavy shock loads. In addition, certain parts such as shafts, pinions and gears, must be very hard and resistant to fatigue. Most of these properties are quite easily gained by the use of alloy steels which have a high strength (100,000-240,000 lb. per sq. in.) and a ductility comparable with that of the plain carbon steels. Another fact about most alloy steels is the relatively high elastic limit as compared with the tensile strength.

Extreme hardness can be attained in two general ways—(1) carburizing and case hardening or (2) oil hardening and tempering of relatively high-carbon steels. These two types of material are illustrated in the table entitled "Rotary Drilling Equipment" by the materials recommended for rotary gears. Case hardening results in a skin or surface hardness of over 600 Brinell and the core or main body of the part has both strength and ductility by proper heat treatment. The oil-hardened steels (0.4-0.5 per cent carbon) are hardened by quenching in oil and tempering (or drawing) and the entire part is hard. The high-manganese steel, which is also recommended for gears, owes its success to the peculiar properties of such steels. Although the strength is not high, and the material does not show great hardness when tested, it is particularly susceptible to hardening by cold work and hence the surface of the material becomes very hard and wear resistant during service simply by the rubbing of its surface against other parts with which it comes in contact.

It is noteworthy that such different amounts of alloy elements are used in many of the parts, as an example, rotary shafting. Although the different alloy elements do not act in exactly the same way, nor are all elements of equal potency, a somewhat useful comparison can be had by noting the total amount of alloy elements that is used in each steel. The lowest total percentage of alloy elements is 1.05 per cent (S.A.E. 5140) and the highest is 2.7 per cent (S.A.E. 4340). Manganese in small amounts is considered as a scavenger agent, not primarily as an alloy element. The answer to the variation in alloy content is the cost that the purchaser will accept and the somewhat more dependable results that are attained with high percentages of alloy element when such steels are heat treated. In general, the effect of alloy elements is to permit hardening of the steel without extremely rapid quenching. Thus, the less rapidly quenched steels of high-alloy content will not exhibit residual thermal stresses which may cause unexpected failure.

ROTARY DRILLING EQUIPMENT

Part or service—	Steel	Approximate analysis, per cent* C	Mn	Cr	Ni	Mo	Approximate physical properties Y.P.	Elong.	Brinell	Heat treatment	Reference
Rotary table	Cast S.A.E. 3135	.35	.65	.6	1.25	..	56,000	21	...	Annealed	16
Rotary pinions	S.A.E. 4640	.4	.5	..	1.75	.25	165,000	15	380	O. Q. 1,450° F.—temper 800° F.	6
Rotary swivels:											
Bearings	Krupp analysis	.12	..	1.1	4.1	..	.....	..	600+	Carburized	15
Bail bolts	S.A.E. 3245	.45	.45	1.0	1.75	..	140,000	18	335	O. Q. 1,450° F.—temper 1,000° F.	15
Bails	S.A.E. 4140	.40	.75	.9	..	.2	145,000	15	325	O. Q. 1,550° F.—temper 1,000° F.	6
Rotary shafting	S.A.E. 3140	.40	.75	.6	1.25	..	125,000	16	300	O. Q. 1,500° F.—temper 950° F.	6-17
	X 3140	.40	.75	.75	1.25	..	130,000	16	320	Oil quench and temper	6
	3245	.45	.45	1.0	1.75	..	140,000	18	330	O. Q. 1,450° F.—temper 1,000° F.	6
	4340	.4	.65	.65	1.75	.3	160,000	16	350	O. Q. 1,525° F.—temper 1,000° F.	6
	4140	.4	.75	.9	..	.2	120,000	16	300	O. Q. 1,550° F.—temper 1,000° F.	17
	4640	.4	.65	..	1.8	.25	140,000	18	320	O. Q. 1,500° F.—temper 950° F.	17
	6145	.45	.75	1.0	..	(Va .15)	120,000	17	300	O. Q. 1,600° F.—temper 1,100° F.	17
	5140	.4	.75	1.05	..	..	110,000	17	300	O. Q. 1,500° F.—temper 1,050° F.	17
Rotary gears	S.A.E. 2315	.15	.45	..	3.5	..	.....	..	600+	Carburized	15
	2512	.12	.45	..	5.0	..	.....	..	600+	Carburized	15
	4820	.2	.5	..	3.5	.25	.....	..	600+	Carburized	6
	3245	.45	.45	1.0	1.75	..	150,000	17	370	O. Q. 1,500° F.—temper 900° F.	15
	Hadfield's mang.	1.1	12.5			(Si 6)	35,000	50	200†	Soaked at 1,850° F. water quench	34
	Cast chromium molybednum	.36	..	.76	..	.35	86,000	17	...	O. Q. 1,600° F.—temper 1,250° F.	6

*Minor elements as specified by S.A.E. or for similar steels. †Hardens upon use or cold work.

Bails and bail bolts are often exposed to severe shock. They are used as a sort of link or loose joint by which the load or "string" is connected to the source of power. When the load or "string" is picked up, the suddenly applied load must be carried by the bail. Inadvertently the load is often applied with a jerk, which is a severe service for the bail.

The swivel, which sometimes may support a load of 200 tons while rotating at 100 r.p.m., is also a highly stressed equipment—and at times the load varies greatly because the string is sometimes lifted so that little of its weight is carried on the bottom of the hole or drilling bit.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Octane Value Indicates Simply One Quality of Motor Fuel

Can you inform me if a straight-cracked gasoline having an octane number of 70 is as good or better than a leaded gasoline with the same octane number? Is leaded gasoline more apt to give valve trouble than a straight-cracked gasoline?—R. E. K.

The octane number of a motor fuel is simply a method of indicating one property of the fuel, that is, the tendency to detonate under conditions of combustion in the engine. It is now recognized by the authorities that knocking is the most important characteristic of the modern gasoline which influences efficiency of the engine.

Straightrun, cracked, or leaded gasolines of the same octane number are equal in this respect. In a similar way each would be equal to the other if they showed identical temperatures for the initial boiling point. The real quality of any motor fuel can be determined only from analyses and test data which may be compared with established specifications.

The tetraethyl lead fluid now used in gasoline has no action on valves. Corrosion is liable to be due to the presence of sulfur, acids, and gums.

Distinguishing Oil From Mineral Films Found on Water

In a large basin there are several flowing water wells, a half mile apart, and 1,000 to 150 ft. deep. Following a long dry spell, a scum of "oil" accumulates on the ground close to the wells. These wells are in the bottom of the basin 75 ft. below the rim. Are these wells on a structure? Is there any simple test that I could make to determine if this scum is crude oil or some form of vegetation?—F. B. S.

The appearance of oil on the surface of water in wells, brooks, and springs has been observed, but very seldom has it been found on investigation to have come from a crude-oil formation. There are a few real seepages of oil found in various parts of the world, usually in districts where the actual source horizon is found at no great distance from the surface. The iridescence, or rainbow, which is often observed on the natural waters, frequently mistaken for a film of oil, is due to minerals contained in the water. Iron is commonly the cause of the display of color.

An oil film may be quite easily distinguished from an iron film. When the color is due to iron there may frequently be found brown-colored deposits along the edges of the stream or spring. The film is continuous, not in pools, which may be separated into irregular cakes when a stick is drawn through it. These "cakes" may be collected on paper as a solid without causing an oil stain on the paper. If the film is oil it will float about in small pools and will join again if separated by means of a stick. Oil has a distinctive odor too, while the iron film has no odor. Small quantities of oil on water when collected by skimming will give the characteristic grease spot to paper, and is soluble in gasoline. The iron "skim" is insoluble.

There are additional tests that will serve to distinguish oil from mineral films found on the surface of water, but the ones mentioned are well known and usually sufficient to furnish enough information to make positive identification.

All water found under the conditions described is the result of drainage from more elevated ground. Such wells are commonly called artesian, and the structure favorable for such water storage is the opposite to that required for oil accumulations.

Domestic Consumption of Fuller's Earth Lessened by New Methods

Could you give us information concerning the use of fuller's earth in the petroleum industry as a filtering agent? How much is used and is the quantity required increasing? What competition is there from other products and methods? What is the main source of supply?—M. N. B.

The U. S. Bureau of Mines issues each year a review of the condition of the clays industry during the previous year. The summary following has been prepared from the report covering the year 1938.

There was a 24-per cent drop in 1938 for domestic production of fuller's earth, the quantity being 170,852 short tons valued at $1,707,869 against 226,165 tons worth $2,296,094 in 1937. Imports averaged less than 2 per cent. The chief use is in petroleum refining, the consumption paralleling the expansion of the petroleum industry up to 1930. Since then smaller quantities have been used, due to reduction in the output of lubricants, for which the largest proportion of fuller's earth is required, the introduction of new methods of processing which require less earth, substitution of activated earths, and a wider use of bauxite. About 10 per cent of the domestic output of fuller's earth is used for refining vegetable oils, animal oils and fats.

The activated clays, certain earths prepared for discoloring purposes by the treatment with acid, have displaced some fuller's earth in recent years. The activated product being two or three times as powerful as a bleaching agent, but selling at a much higher price.

The average value of fuller's earth in the United States in 1938 was $10 a ton f.o.b. mines, compared with the low of $9.28 in 1933 and the high of $19.51 in 1920. Prices vary according to the size of the particles, the quotations for Georgia-Florida earth have remained unchanged for several years at $14.50 for 30-60 mesh, $14 for 15-30, $10 for 200-mesh up, and $7 for 100-mesh up. All prices are for short tons f.o.b. mines. There are deposits of fuller's earth in California, Colorado, Illinois, Massachusetts, Mississippi, Nevada, New Jersey, Tennessee, and Texas, but the earth mined from the Georgia-Florida deposits outranks all others both in quantity shipped and value. The conditions are reflected in the table.

FULLER'S EARTH SOLD BY PRODUCERS IN UNITED STATES IN 1938

State—	Short tons	Value
Florida and Georgia	91,031	$987,391
Nevada	5,984	57,499
Texas	37,998	358,980
Other states	35,839	303,999
Total	170,852	$1,707,869

Reference: Paul M. Tyler and R. W. Metcalf, Clays, Chapter preprint from U. S. Bureau of Mines, Minerals Yearbook, 1939.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

PASCAL'S LAW

(Pressure on a liquid is transmitted in all directions)

The pressure applied at any point upon a confined liquid is transmitted without loss in all directions. The total pressure acting upon a specified portion of the surface is the sum of the pressure caused by the depth of the fluid and the effect of the external pressure transmitted by the fluid.

Example: The piston of a water pump delivers a definite pressure to the water confined in the cylinder, which is uniform on the walls and connections.

Inspection of Absorption Oil for Gasoline-Extraction Control

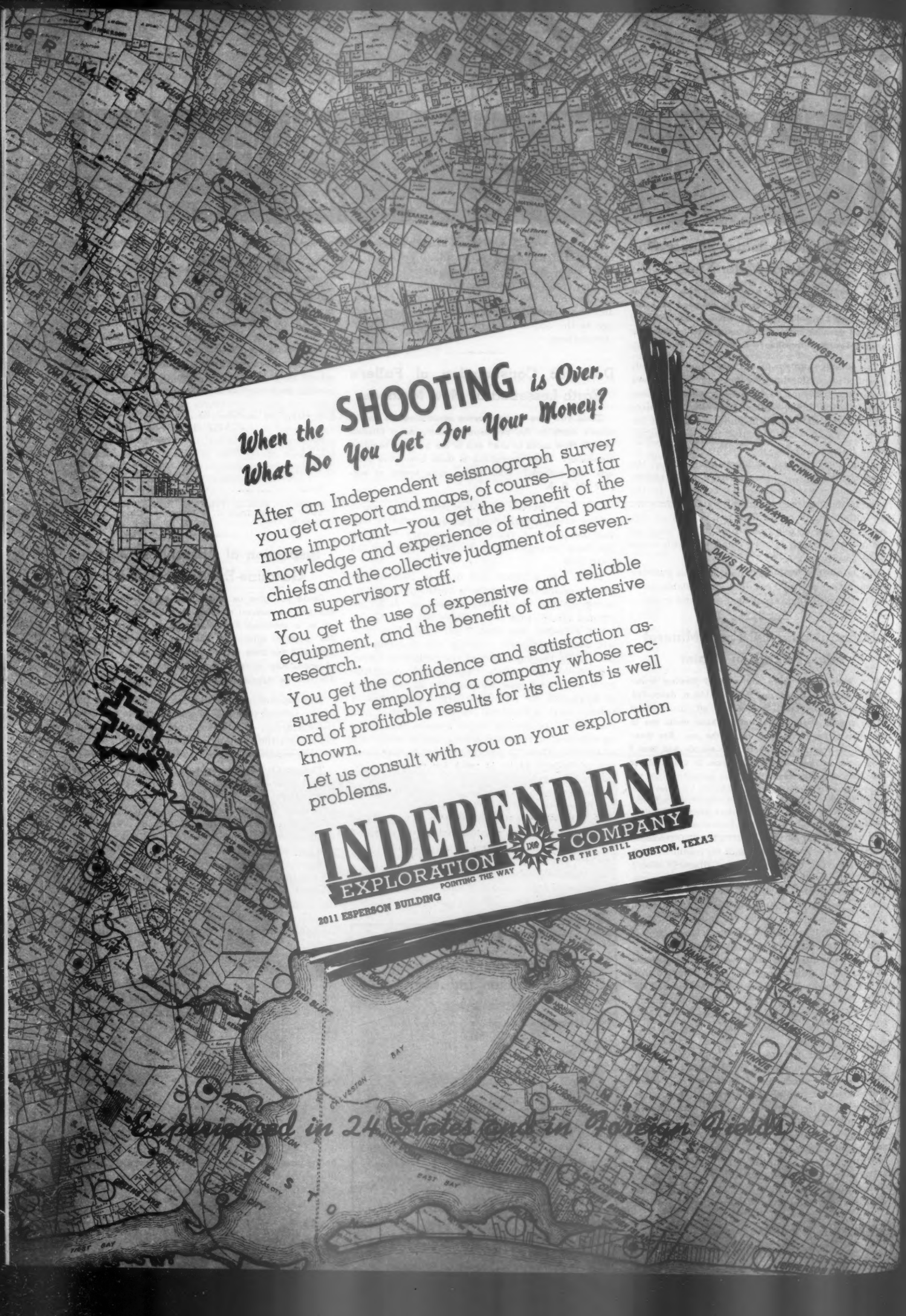
Could you give us information on a lean-oil saturation test for natural gasoline. We heat 200 cc. of the oil in a modified Engler apparatus, designating the 350° point as saturation. The quantity at 400° is measured and the Reid vapor pressure measured in inches of water. Any suggestions on methods and interpretation will be appreciated.—M. B.

The conclusions that may be drawn from a test of the fat and lean oils of an absorption plant for the extraction of gasoline from natural gas must depend on the relation of plant efficiency to laboratory conditions.

The gravity and temperature of the oil should always be noted and the gravity corrected to 60° F. The volume of oil used for the distillation test is important in that it should be of sufficient volume (rich oil) to furnish a distillate which will be adequate for subsequent tests. The distillation should run very slowly with steam through a tower which will prevent oil from being carried over. The tube, or coil, should be surrounded with a bath of cracked ice and water. The distillation should be discontinued when a predetermined vapor temperature has been reached. This temperature should be chosen to correspond with the plant-still temperature. The volume of the distillate is recorded and then the gravity, which is corrected to 60° F. The low temperature, about 34° F., of the condenser box is usually lower than that of the plant but is compensated for by plant pressures.

It is the practice in some plants to permit the distillate to evaporate to a selected gravity corresponding with the stabilized product of the plant. The resulting loss is recorded. The other data to be obtained from the distillate will include color, vapor pressure, sulfur, and the distillation points. Gravity and distillation should always be determined, but the others need be made only occasionally when testing samples for plant control.

Standards for use as guides to the control of operations must be arranged to conform to local conditions, for differences in the quality of the absorbing oil, velocity, temperature, pressure and mechanical arrangements are factors that influence quality and quantity of yield.


When the SHOOTING is Over,
What Do You Get For Your Money?
After an Independent seismograph survey you get a report and maps, of course—but far more important—you get the benefit of the knowledge and experience of trained party chiefs and the collective judgment of a seven-man supervisory staff.
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FOR THE DRILL
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FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—A productive area was opened west of the Bebee pool, Pontotoc County. Largest Oklahoma completion of the week was a 2,246-bbl. well in the Cement field, Caddo County. A Prue-sand pool was opened in northeastern Lincoln County and the Skellyville area in that county was extended. Another large producer was near completion on Cement townsite, Caddo County.

KANSAS—The largest of 32 oil wells completed in Kansas was a 7,086-bbl. producer in the Hittle pool, Cowley County. Three large gas wells were completed in Pratt County. Extension wells were at completion stage in the Kraft pool, Barton County; Laton pool, Rooks County, and Bornholdt pool, McPherson County.

ILLINOIS—Two new pools were opened in White County, in Sections 12-6s-8e and 12-4s-10e, both discovery wells producing from a lime formation. Salem-pool production passed 200,000 bbl. per day. New Wabash County pools completed 12 good wells. Three Salem completions averaged 2,467 bbl. per well in initial potential production.

TEXAS: Gulf Coast—A distillate pool was opened in Fort Bend County, 2½ miles west of Rosenberg. Dry holes were reported on the Big Creek and Long Point structures. A wildcat in Jim Wells County, south of the Ben Bolt field, attempted a blowout at 6,530 ft., but was controlled.

North Texas—The Sikes pool in Archer County was extended 1,000 ft. westward. A test 5 miles north of Bowie, Montague County, was dry and abandoned at 5,002 ft. Clay County's deepest well, total depth 6,072 ft., and a failure in the Ellenburger lime, will test upper formations. A Cottle County wildcat was dry and abandoned at 6,142 ft.

West Texas—New wells have been started in the Ordovician-lime Apco pool in Pecos County to offset the 424-bbl. and 2,000-bbl. wells already completed. Seven wells were completed in the Wasson-Denver-Bennett field in Gaines and Yoakum counties.

West Central Texas—A 1,200-bbl. well opened a pool in Stephens County, 3 miles southeast of the Ibex pool. A Bluff Creek-sand pool was opened in Shackelford County, 7 miles northeast of Lueders pool.

Southwest Texas—A wildcat 5½ miles west of Refugio, in Refugio County, attempted to blow out at a depth about 6,487 ft.

LA-ARK-TEX—Gulf Refining Co.'s deep test in the Elm Grove field of Bossier Parish was being tested after having opened high-pressure gas in the lower Glen Rose formation.

CALIFORNIA—An important extension to the Rio Bravo field in Kern County was made by a 3,200-bbl. well. It is thought to have proved up between 1,000 and 2,000 additional acres. The extension well is high on structure. It produces from the Rio Bravo zone at a total depth of 11,415 ft. The Tupman field in Kern County was extended northerly.

Completions in All Fields

(Week Ending September 23, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	64	15	4	83	2,329	2,760
Ohio	6	14	4	24	709	733
Indiana	5	0	5	10	208	70
Kentucky	4	2	9	15	497	646
Illinois	76	0	12	88	2,596	1,098
Michigan	17	1	11	29	1,034	628
Kansas	32	5	4	41	947	1,194
Oklahoma	19	1	10	30	1,310	1,281
Texas:						
North Central Texas	18	1	16	35	1,728	2,346
West Texas	30	0	2	32	1,356	1,451
Texas Panhandle	13	3	1	17	301	429
East Texas	5	0	0	5	317	1,431
East Central Texas	2	1	4	7	201	260
East Texas Border	1	0	1	2	55	107
Gulf Coast Texas	29	1	5	35	986	981
Southwest Texas	29	0	14	43	1,674	1,529
Total Texas	127	6	43	176	6,618	8,534
North Louisiana	2	4	5	11	385	474
Gulf Coast Louisiana	9	0	4	13	453	351
Total Louisiana	11	4	9	24	838	825
Arkansas	3	0	2	5	193	176
Montana	2	0	0	2	116	75
Wyoming	2	0	1	3	91	117
Colorado	1	0	0	1	9	9
New Mexico	9	0	0	9	425	417
California	15	0	3	18	676	974
Total United States	393	48	117	558	18,596	*19,537
Total previous week	400	55	123	578		
Week ending Sept. 24, 1938	370	38	113	521		

*The total of this column last week was incorrect. It should have read 19,016.

Outstanding Fields—Highlights

(Week Ending September 23, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	40	42	5	5,112	1,133	25,300
Wasson-Bennett	15	67	7	6,131	428	18,336
Ector County	16	51	8	9,538	1,840	55,750
Pecos County	15	33	1	393	1,186	37,050
Jones County	8	25	2	715	565	9,048
East Texas	3	26	5	256	26,085	492,898
OKLAHOMA						
St. Louis	7	22	3	310	888	26,750
KANSAS						
Barton County	5	14	2	1,328	483	14,485
Ellis County	3	15	3	1,710	425	10,245
Rice County	4	23	4	1,172	1,356	29,705
Russell County	3	25	8	3,100	1,320	22,435
NEW MEXICO						
Lea County	6	47	5	1,383	2,247	88,840
LA-ARK-TEX						
Magnolia, Ark.	1	10	3	1,180	65	15,895
Cotton Valley, La. (deep)	1	9	1	50	139	10,050
MICHIGAN						
Kent County	8	43	6	1,812	136	9,209
Van Buren County	4	21	2	584	279	13,362
Freeman-Redding	3	16	3	3,637	112	12,974
CALIFORNIA						
Wilmington	4	19	5	1,957	710	87,750
ILLINOIS						
Salem	9	88	22	5,374	1,308	200,074
Louden	7	60	18	3,412	1,088	63,110
Other basin fields	39	256	35	8,200	1,648	67,782
Old fields	....	.....	....	.....	.....	9,150

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

Salem Pool Passes 200,000-Bbl. Mark; State's New Peak

MATTOON, Ill., Sept. 25.—An increase of 8,700 bbl. per day in the average production of Illinois for the past week, compared with the production of the week before, brought the new record high production of the state to 340,116 bbl. per day. Of this the Salem field in Marion County contributed 200,074 bbl. per day; Louden in Fayette County, 63,110 bbl. per day and all other basin fields 67,782 bbl. per day. The old fields of the state supplied the remainder, 9,150 bbl. per day. The Salem field increased its production 5,368 bbl. per day; Louden fell off 905 bbl. and the other basin fields increased 4,697 bbl. The old fields declined 460 bbl.

Seventy-six oil wells with a combined initial production of 16,986 bbl. were completed, along with 12 dry holes, a total of 88 completed wells during the week. Marion County completed 23 oil wells, with 5,749 bbl. initial production, which would have been much greater had it not been that Texas Co. permits its new wells to produce only 3 hours on their initial day, and only the actual initial production is recorded. One wildcat dry hole was completed in the county. All but one of the oil wells were in the Salem field. Fayette County recorded 20 new oil wells with a combined 3,695-bbl. initial production. All but two of the wells were in the Louden field. Three wildcat dry holes were completed in Fayette. Wayne had 6 new oil wells with 2,173 bbl. new production; Clay County, 5 with 2,862 bbl.; Jefferson, one 65-bbl. well; Washington County, 2 wells, good for 265 bbl.; Lawrence 2 for 78 bbl.; Wabash 12, which combined to produce 2,795 bbl. initially; White County, 4, for 396 bbl., and Edwards, 1, good for 191 bbl. One dry hole each was completed in St. Clair, Monroe, Gallatin, Champaign, McDonough, Knox, Clinton and Jefferson counties, which with 1 in Marion and 3 in Fayette made a total of 12.

J. W. Carter and others' No. 1 Johnson in Section 12-4s-10e, opened production in a new spot in White County, producing from pay in the Roseclaire lime. The well was not yet completed but it looked good for at least 300 bbl. per day at least after the well had been given an acid treatment in the upper part of the lime. Another White County well not on the completed list flowed 77 bbl. in 2½ hours, also producing from the lime. It is Penn Illinois No. 1 Pyle in Section 12-6s-8e.

Following is the detailed completion record of the week, the initial production representing 24 hours unless otherwise noted:

Marion County

In Marion County Harvey's No. 6 Kagey A, NE SW SE Section 33-3n-2e, Tonti pool, McClosky lime at 2,131 ft., total depth 2,153 ft., pumped 375 bbl.

In the Salem pool Bowden's No. 1 Martin, C S½ SW SW Section 10-2n-2e, deepened from 2,122 ft., found Devonian lime at 3,570 ft.; show of water; drilled to 3,651 ft.; dry and abandoned. Texas Co.'s No. 15 H. Wayman, NW NW NW Section 32-2n-2e, McClosky pays at intervals from 1,830 to 1,887 ft., flowed 236 bbl. in 3 hours, rated at 1,652 bbl. per day. Texas' No. 18 N. Lee, NE NE NE Section 32-2n-2e, McClosky pay at 1,948-67 ft. and 1,977-82 ft., flowed 65 bbl. in 3 hours, rated a 455-bbl. well. Texas' No. 12 Friener, NW NE NW Section 32-2n-2e, McClosky at 1,820-33 ft. and 1,877-90 ft., flowed 90 bbl. in 3 hours, rated a 630-bbl. well. Texas' No. 5 M. A. Tate, NE SW SW Section 31-2n-2e, McClosky at 2,039-46 ft., flowed 32 bbl. in 3 hours, rated a 224-bbl. well. Texas' No. 13 E. Tate, NE SE SW Section 31-2n-2e, McClosky at 1,950-60 ft. and 1,977-2,000 ft., flowed 60 bbl. in 3 hours, rated at 420 bbl. a day. Texas' No. 5 Reed B, SW NW SE Section 31-2n-2e, McClosky at 1,900-16 ft. and 1,935-62 ft., flowed 75 bbl. in 3 hours, rated a 525-bbl. well. Texas' No. 8 Dunning, SE NW SE Section 31-2n-2e, McClosky pay at 1,856-62 ft. and 1,882-92 ft., flowed 96 bbl. in 3 hours, rated a 672-bbl. well. Texas' No. 7 Stroup, NE SW SE Section 30-2n-2e, shot with 8 qt. at 1,765-1,845 ft., Benoist and Aux Vases sands, flowed 346 bbl. in 3 hours, rated at 2,382 bbl. a day. Texas' No. 7 L. Dunning, SE SE SE Section 30-2n-2e, McClosky lime at 1,904-14 ft. and 1,930-50 ft., flowed 65 bbl. in 3 hours, rated at 455 bbl. a day. Texas' No. 14 W. Frederick A, McClosky at 1,914-82 ft., at intervals, flowed 103 bbl. in 3 hours, rated at 700 bbl. a day. Magnolia Petroleum Co.'s No. 21 S. Shanafelt, SE SW SE Section 29-2n-2e, McClosky at 1,928 ft., total depth 2,040 ft., acidized with 3,000 gal., flowed 1,680 bbl. a day. Ohio Oil Co.'s No. 21 C. E. Lloyd, SW NE SE Section 28-2n-2e, shot with 40 qt. at 1,810-26 ft., Benoist sand, pumped 120 bbl. in 15 hours. Magnolia's No. 62 J. H. Young, SE cor. NW Section 28-2n-2e, McClosky at 1,975-2,005 ft., acidized with 2,000 gal., pumped 288 bbl. Texas Co.'s No. 14 D. Young, S½ SW SW NW Section 21-2n-2e, shot with 70 qt. at 1,806-76 ft., flowed 316 bbl. in 3 hours, rated a 2,212-bbl. well. Magnolia Petroleum Co.'s No. 37 Chitwood, SE NW SE Section 21-2n-2e, McClosky at 2,080-2,155 ft., in streaks, plugged back to 2,108 ft., pumped 48 bbl. of oil and 47 bbl. of water in 24 hours. Haynes & Thomas' No. 2 Chitwood, SW NE SE Section 21-2n-2e, McClosky lime at 2,086-2,102 ft., acidized with 1,000 gal., pumped 25 bbl. of oil and 15 bbl. of water. Shell Oil Co., Inc.'s No. 8-B Salem State Bank, NE SW SE Section 20-2n-2e, shot with 25 qt. at 1,838-56 ft., flowed 920 bbl.

Kingwood Oil Co. and Bell's No. 16 Shanafelt A, C NE NE Section 20-2n-2e, shot in Aux Vases sand at 1,830-81 ft., pumped 215 bbl. in 15 hours. Texas Co.'s No. 21 E. Jett, SW SW SW Section 16-2n-2e, McClosky at 2,014-21 ft. and 2,036-45 ft., flowed 28 bbl. in 3 hours, rated at 196 bbl. a day. Texas' No. 3 Richardson Roadway, NW SW SE Section 4-1n-2e, Benoist sand at 1,863 ft., total depth 1,886 ft., pumped 48 bbl. a day. Texas' No. 1 Frederich, SE SE NW Section 7-1n-2e, shot with 50 qt. at 1,806-56 ft., Benoist and Aux Vases sands, flowed 117 bbl. in 3 hours, rated at 819 bbl. a day. Texas' No. 7 G. Johnson, NW SE NE Section 7-1n-2e, shot with 100 qt. at 1,755-1,855 ft., Benoist and Aux Vases sands, flowed 401 bbl. in 3 hours, rated at 2,807 bbl. a day.

In Clinton County Williams and others' No. 1 Grough, SW SE NE Section 1-1n-1w, was dry and abandoned at 1,390 ft.

In Jefferson County Carter Oil Co.'s No. 2 Arnold Crane, SW SW NE Section 9-1s-2e, Bethel sand at 1,932-40 ft., pumped 65 bbl. Wiser Oil Co.'s No. 1 Severs, SW SW NW Section 19-2s-1e, Fredonia lime top at 2,235 ft., total depth 2,365 ft., dry and abandoned.

In Washington County Ohio Oil Co.'s No. 1 Kozuzek, Benoist sand at 1,260-65 ft. and 1,287-90 ft., shot with 3 qt. and 4 qt., pumped 104 bbl. Shell Oil Co., Inc.'s No. 2 Sharkowski, SE NW NW Section 23-3s-3w, shot with 21 qt. at 1,284-97 ft., Benoist sand, pumped 161 bbl.

In Knox County O. H. Hammer's No. 1 Bragg, NW cor. NE SE SE Section 9-11n-2e of fourth principal meridian, dry and abandoned at 800 ft.

In McDonough County A. J. Hammer's No. 1 Powell, NE cor. SE SE NE Section 29-4n-4w of fourth principal meridian, abandoned at 110 ft.

In Champaign County Sidney Oil & Gas Co.'s No. 1 Wendling, SW cor. SE NE SE Section 10-17n-10e, Trenton lime top at 1,725 ft., total depth 1,780 ft., dry and abandoned.

In the Louden field in Fayette County, Stewart's No. 4 McCoy, NE SE NE Section 34-8n-3e, total depth 1,596 ft., 2 ft. in Paint Creek sand, was dry and abandoned. Stewart Oil Co.'s No. 2 McCoy, NE NE NE Section 34-8n-3e, total depth 1,587 ft., shot with 20 qt., pumped 40 bbl. Carter Oil Co.'s No. 5 R. E. Fair, SW cor. NW SW SW Section 29-8n-3e, total depth 1,575 ft., shot with 15 qt. and acidized with 1,000 gal., pumped 24 bbl. per day. Carter's No. 5 Mabel Mills, SW SE SW Section 28-8n-3e, total depth 1,550 ft., dry and abandoned, with no showing in the Cypress and poor saturation in the 4 ft. of Bethel sand. Carter Oil Co.'s No. 1 Rhodes, NE NW NE Section 27-8n-3e, total depth 1,589 ft., shot with 40 qt. and 20 qt., flowed 690 bbl. through tubing in 24 hours. Carter's No. 2 M. E. Hogan, SW NW SE Section 21-8n-3e, shot with 10 qt. at 1,543-46 ft. and 30 qt. at 1,540-50 ft., swabbed 48 bbl. Carter's No. 2 Beck, SW SE SW Section 21-8n-3e, total depth 1,530 ft., shot with 50 qt., flowed 282 bbl. from Bethel sand. Carter's No. 2 Beck, NE SW SW Section 16-8n-3e, total depth 1,593 ft., acidized with 1,000 gal. and shot with 10 qt., flowed 270 bbl. of oil and 5 bbl. of water. Carter's No. 2 Alsop, SE SW NW Section 12-8n-3e, shot with 20 qt. at 1,449-55 ft., swabbed 328 bbl. of oil and 50,000 cu. ft. of gas.

Texas Co.'s No. 4 Wooten, NE SE SE Section 31-7n-3e, total depth 1,590 ft., pumped 27 bbl. in 3 hours, rated at 189 bbl. a day. Shell Oil Co., Inc.'s No. 2 Jedamski, SW SE SW Section 21-7n-3e, Cypress sand at 1,564 ft., total depth 1,582 ft., shot with 4 qt., pumped 108 bbl. in 23 hours. Carter Oil Co.'s No. 4 C. Owen, SW NE NW Section 20-7n-3e, total depth 1,550 ft., shot with 20 qt., swabbed 216 bbl. of oil. W. B. Johnson's No. 3 Arnold, NE SW NW Section 19-7n-3e, total depth 1,577 ft. ,shot with 30 qt., pumped 95 bbl. of oil and 25 bbl. of water. Robert E. Markham and others' No. 3 Rhodes, C N½ SW SW Section 18-7n-3e, total depth 1,556 ft., shot with 20 qt., pumped 130 bbl. Carter Oil Co.'s No. 3 W. Hawkins, SW NE SW Section 17-7n-3e, total depth 1,570 ft., shot with 15 qt., swabbed 48 bbl. Carter's No. 7 Olga Harper, NE SW SW Section 17-7n-3e shot with 15 qt. at 1,578-90 ft., ripped casing and shot with 20 qt. at 1,516-26 ft.,

Illinois Fields

HIGHLIGHTS OF THE WEEK: While the Salem field in Marion County rose to an average daily production of 200,074 bbl. last week placing it among the largest flush fields of all times, the attention of oil men centers on the counties close to the Indiana border in the southeastern part of Illinois. Wabash, White and Edwards counties, with their new pools, are in the limelight. Wabash County, in particular, should show a large number of completions in a short time from the many drilling wells in progress there. Twelve wells were completed in that county last week, with an average initial output of 233 bbl. per well.

Average daily production of new pools, 330,066 bbl.; old pools, 9,150 bbl., total 340,116 bbl.

Oil wells completed, 76; total operations, including locations, rigs and wells drilling, 469.

swabbed 24 bbl. of oil and 46 bbl. of water. Carter's No. 5 Welker, NW SE SE Section 7-7n-3e, shot with 10 and 60 qt. at 1,470-89 ft., swabbed 456 bbl. Carter's No. 7 Marie Thornton, SE SE NW Section 7-7n-3e, shot with 20 qt. at 1,486-1,506 ft. and with 60 qt. at 1,488-1,510 ft., swabbed 88 bbl. Carter's No. 4 Edith Quade, SE SW SW Section 6-7n-3e, shot with 40 qt. at 1,518-34 ft., swabbed 260 bbl. Carter Oil Co.'s No. 8 Durbin, SW SW SE Section 5-7n-3e, swabbed 400 bbl. from Weller sand, 278 bbl. from stray sand, and 278 bbl. from Bethel sand, a total of 956 bbl. a day.

Ohio Oil Co.'s No. 3 Schwarm, NW NW NW Section 31-6n-3e, total depth 1,613 ft., shot with 7 qt., pumped 208 bbl. Texas Co.'s No. 1 Irey, NE NW NW Section 7-6n-3e, total depth 1,528 ft., pumped 75 bbl. of oil and 7 bbl. of water.

Clay County

In Clay County J. Saunders and others' No. 3 Gill, NW SE NW Section 18-2n-8e, total depth 3,104 ft., flowed 1,900 bbl. naturally. Pure Oil Co.'s No. 2 Ausbrook, SW NW NW Section 5-2n-8e, total depth 3,125 ft., treated with 5,000 gal., flowed 333 bbl. Pure Oil Co.'s No. 4 Holmes Consolidated, C W½ SW NE Section 6-2n-8e, total depth 3,150 ft., perforated with 191 holes at 3,036-76 ft., flowed 162 bbl. in 9 hours through casing. Wiser Oil Co.'s No. 7 Daly, C E½ NE NE Section 12-2n-7e, perforated casing with 90 holes at 3,045-68 ft., flowed 78 bbl. in 19 hours. Pure Oil Co.'s No. 1 Schrugham A, SE NE SW Section 19-2n-8e, pays at intervals at 3,017 to 3,085 ft., acidized with 5,000 gal., pumped 389 bbl.

In Lawrence County Strine, Hawks and others' No. 1 Corrie, C E½ SE NE Section 21-2n-13w, McClosky at 2,705-12 ft., St. Louis 2,908-12 ft., acidized with 3,000 gal., estimated at 50 bbl. of fluid per day, 50 per cent oil.

Wayne County

In Wayne County Pure Oil Co.'s No. 1 Fitch, C S½ NW NE Section 10-1n-8e, McClosky at 3,098 ft., total depth 3,160 ft., pumped 28 bbl. of oil and 265 bbl. of water. Pure Oil Co.'s No. 1 Ged Miller A, pay at 3,036-43 ft., streaks of saturation to 3,088 ft., acidized with 5,000 gal., flowed 752 bbl. Pure Oil Co.'s No. 2 Hill, C W½ SW SE Section 4-1n-8e, pay at 3,041-48 ft. and 3,070-77 ft., flowed 597 bbl. in 17 hours. Pure Oil Co.'s No. 2 Butt Consolidated, C S½ SE SE Section 3-1n-8e, pays at 3,095-3,101 ft. and 3,112-14 ft., pumped 3 bbl. of oil and 195 bbl. of water. Pure Oil Co.'s No. 2 Hilliard A, C N½ NE SW Section 34-1s-7e, Fredonia lime top at 3,241 ft., total depth 3,304 ft., acidized with 5,000 gal., flowed 377 bbl. C. Robinson's No. 3 Hornich & Murphy, SE NW SW Section 35-2s-8e, McClosky at 3,405-22 ft., flowed 416 bbl.

Wabash County

In Wabash County Tide Water Associated Oil Co.'s No. 1 LaGier, NE SE NE Section 17-2s-13w, Cypress sand at 2,389-2,418 ft., flowed 238 bbl. Miller & Murdock's No. 1 Epler, SE cor. SW NE SW Section 9-2s-13w, Cypress sand at 2,430-36 ft., total depth, pumped 294 bbl. J. Meyers' No. 1 Lovellette, SW cor. NW SE SW Section 9-2s-13w, Cypress sand at 2,448-72 ft., pumped 285 bbl. Marvel Oil Co.'s No. 1 Collins, SW SW SW Section 9-2s-13w, Cypress sand at 2,414-23 ft., pumped 82 bbl. Kitley's No. 1 M. E. Church, C S½ SW SW Section 9-2s-13w, Cypress sand at 2,424-37 ft., shot with 10 qt., pumped 40 bbl. Hollingsworth's No. 1 Beard, SW cor. SE SE SW Section 9-2s-13w, Cypress sand at 2,440-65 ft., pumped 350 bbl. Hart & Carroll's No. 1 Nash, NW SE SW Section 9-2s-13w, Cypress sand at 2,437-45 ft., pumped 275 bbl. H. Fotiades' No. 1 Wheeler Community, SW SE SW Section 9-2s-13w, Cypress sand at 2,448-72 ft., pumped 350 bbl. D. & H. Drilling Co.'s No. 1 Bump heirs, SW cor. NE SW Section 9-2s-13w, Cypress at 2,419-35 ft., pumped 125 bbl. Centralia Refining Co.'s No. 1 French, NW SE SW Section 9-2s-13w, Cypress at 2,443-60 ft., pumped 144 bbl. Centralia Refining Co.'s No. 1 Keensburg Cemetery, NW SW SW Section 9-2s-13w, Cypress at 2,430-43 ft., pumped 97 bbl. Harry Fotiades' No. 1 Nash, Lot 10, Block A, Keensburg, Section 9-2s-13w, Cypress sand at 2,432-64 ft., pumped 515 bbl. in 24 hours.

In Gallatin County Buford Oil Co.'s No. 1 Egyptian Tie & Lumber Co., SW NE NW Section 22-8s-10e, dry and abandoned at 2,478 ft., Cypress sand at 2,433 ft. contained water.

In White County Nation Oil Co.'s No. 2 Hammack, NW SW SE Section 31-3s-8e, Aux Vases sand at 3,221 ft., total depth 3,260 ft., pumped 69 bbl. Nation Oil Co.'s No. 1 Hammack, SW SW SE Section 31-3s-8e, McClosky lime at 3,358-85 ft., acidized with 2,500 and 4,000 gal., pumped 120 bbl. in 24 hours, reacidized with 1,000 gal. in Aux Vases sand, pumped 65 bbl. in 24 hours. Baldwin's No. 1 McIntosh, NW NW SE Section 31-3s-8e, McClosky at 3,341-87 ft., flowed 202 bbl. by heads in 24 hours.

In Edwards County Kingwood Oil Co.'s No. 1 Steele, NE NE SE Section 18-3s-11e, casing perforated at 3,157-63 ft., acidized with 3,000 gal., pumped 191 bbl.

In White County Mazda Oil Corp.'s No. 1 Carmi Orphanage, SE NE SE Section 22-5s-9e, perforated casing at 2,868-86 ft., pumped 5 bbl. of oil and 55 bbl. of water.

In Monroe County Columbia Quarry Co.'s No. 1 fee, NW SW SE Section 3-3s-11w, was dry and abandoned at 750 ft. St. Peter sand was topped at 415 ft.

In St. Clair County, Gladiator Oil Co.'s No. 1 Hoffstetter, C N½ NE SE Section 35-1n-10w, was dry and abandoned at 650 ft.

In Fayette County Wynn Brothers' No. 1 Sanders, SE cor. NW NE Section 1-7n-2e, had salt water at 1,481-82 ft., total depth; abandoned.

New Wildcat Operations

In Coles County Dougherty & Dunn's No. 1 J. F. Mitchell, 680 ft. S and 60 ft. W of NE cor. SW Section 24-11n-10e, cellar and pits. Harry Miller's No. 1 Blagg, SE SE NE Section 9-11n-10e, drilling at 45 ft.

In Fayette County Edwin Bair's No. 1 Dammerman, NW cor. SW¼ Section 18-8n-4e, location.

In Clay County Burnett & Evans' No. 1 Liggett, 250 ft. from W and 178 ft. from S lines, NE SE Section 17-5n-5e, an old well that had been abandoned, plugged back from 2,445 ft. to 2,320 ft. and perforated casing, cleaning out with cable tools and will put on the pump.

In Richland County Pure Oil Co.'s No. 1 Kropp, 1,201 ft. from W and 1,987 ft. from S lines of SW¼ Section 31-5n-10e, spudded.

In Lawrence County Kentucky Natural Gas Co.'s No. 1 Carpenter Community, 120 ft. from N and 390 ft. from E lines of SE SW Section 7-4n-11w.

In White County Kingwood Oil Co.'s No. 1 Metcalf, 1,650 ft. from S and W lines, Section 31-3s-11e, rig up. Superior Oil Co.'s No. 1 Fox and others, SW NE NE Section 9-5s-14w of second principal meridian, drilling at 1,435 ft.

In Bond County J. E. Huppard and others' No. 1 Dresser, 1,500 ft. from W and 680 ft. from N lines,

(Continued on Page 79)

INDIANA

EVANSVILLE, Ind., Sept. 25.—A well that flowed at the rate of about 950 bbl. per day, completed in the Griffin pool in Gibson County, a 90-bbl. well in Posey County, and a 96-bbl. well in Vigo County, were the best Indiana had to offer in the past week in the fields. Two wildcat dry holes were abandoned in Gibson County, one in Posey, one in Martin, one in Marion, a total of five. A 4-bbl. well in Adams County and a 10-bbl. well in Jay County completed the week's results a total of 10 completed wells.

Papoose Oil Co.'s No. 3 Cooper, in the Griffin field, was not yet a completion, but it flowed 300 bbl. of oil in 10 hours from Cypress sand, and a considerable number of other wells in that pool were close to completion.

Following is the record of the week, and the progress of important drilling wells in the state:

Gibson County

In Gibson County Morgan & Kernan's No. 1 Kohlmeier, NW cor. SW SW SE Section 13-3s-9w, was a hole full of water at 1,024 ft., and was abandoned at 1,038 ft. Paul Davis and others' No. 1 Prudential Life, NW NW NW Section 36-1s-10w, was dry and abandoned at 2,000 ft. Ste. Genevieve lime was topped at 1,846 ft. The well had a showing of 1,407-14 ft., but it was not tested. Continental Oil Co. completed No. 4 Bozeman, SE NW NW Section 24-3s-14w, in Cypress sand at 2,500-15 ft. It flowed 198 bbl. in 2¾ hours, and produced gas at the rate of 943,000 cu. ft. per day.

Papoose Oil Co.'s No. 3 Cooper, SW SW SW Section 13-3s-14w, drilling at 575 ft. Papoose Oil Co.'s No. 2 Cooper, SE SW SW Section 13-3s-14w, not yet a completion, flowed 300 bbl. of oil in 10 hours from Cypress sand at 2,485-2,505 ft., total depth. Papoose's No. 1 Cooper, SW SE SW Section 13-3s-14w, cored at 2,506-17 ft., recovering 11 ft. of saturated sand. Casing, 5½-in., was set at 2,506 ft. Plugs were drilled and the crew was cleaning out. Lewis Production Co.'s No. 3 Cooper D, 1,055 ft. from S and 330 ft. from E lines of NW¼ Section 13-3s-14w, was drilling at 600 ft. Lewis' No. 2 Cooper D, C NE SE NW Section 13-3s-14w, flowed oil into pits from a lime pay at 2,856-72 ft., and was shut in.

Lewis Production Co.'s No. 4 Cooper, SE cor. NE¼ Section 12-3s-14w, was shot with 30 qt. at 2,515-32 ft., the hole filled with oil and was being put on the pump.

Posey County

In Posey County Sun Oil Co.'s No. 1 Streh, NW NE SE Section 1-7s-12w, was completed in sand at 1,749-89 ft. The total depth was 1,892 ft., but the hole was plugged back to 1,770 ft. The well pumps 90 bbl. of oil and 125 bbl. of water per day. Rogers Brothers' No. 1 Seifert, SW SW NE Section 20-6s-12w, was dry and abandoned at 2,855 ft. Ste. Genevieve lime was topped at 2,744 ft. The well had no oil showing.

H. G. Lewis' No. 1 Hill, NE NW SE Section 35-3s-14w, pumped 15 bbl. of oil and 10 bbl. of water per day from sand at 3,106-12 ft., total depth 3,115 ft.; may acidize or deepen. Somers & Egan have rig up for No. 2 Keck, SE NE NE Section 34-3s-14w. C. W. McKeehan and others' No. 1 Keck, NW NW NW Section 35-3s-14w, was drilling at 1,933 ft. Superior Oil Co.'s No. 8 New Harmony Realty Co., SW SE NE Section 9-5s-14w, saturated Waltersburg sand at 2,158-2,208 ft., 7-in. casing set at 2,158 ft.; drilling plugs. Superior's No. 9 New Harmony Realty, NE SW SW Section 10-5s-14w, drilling at 2,085 ft.

Sun Oil Co.'s No. 4 Heil, SE SE SE Section 1-7s-12w, set 7-in. casing at 1,893 ft., total depth, and drilling plugs. C. J. Evans' No. 1 Martin, SE SW SW Section 3-5s-12w, shut down at 875 ft. Keniland and others' No. 1 Montgomery, NE NE NE Section 9-4s-12w, shut down at 500 ft.

Other Completed Work

In Martin County Montgomery's No. 1 Salmon, SE SW SW Section 2-2n-3w, was abandoned at 47 ft.

In Vigo County Vanderbank & Whitaker's No. 1 Troutman, SE cor. SW NW NW Section 16-10n-10w, pumped 4 bbl. of oil and 4 bbl. of water per hour from Devonian lime at 2,159-67 ft., which had been shot with 40 qt., and at 2,195-2,212 ft., which was shot with 40 qt.

In Marion County, north of Indianapolis, C. E. Jefferson's No. 1 Hoover, NW cor. SE SE SW Section 34-17n-3e, was dry and abandoned at 965 ft. Trenton lime was topped at 938 ft., and there was a showing of gas with a stain of oil at 940-44 ft.

In Adams County Haugh and others' No. 1 Haugh, SE NE NW Section 24-26n-14e, is a 4-bbl. well in Trenton lime at 950-1,000 ft.

In Jay County Larapaul Oil Co.'s No. 1 Landner, SW NE NW Section 25-22n-12e, was good for 10 bbl. a day from pay at 1,010-12 ft. Trenton rock was topped at 968 ft.

Wildcat Progress

In Huntington County R. L. Myers' No. 1 Cramer, CWL E½ SW NW Section 29-26n-9e, was drilling at 1,052 ft. Claude Drilling Co.'s No. 2 Young, SE SE SW Section 21-26n-9e, top of Trenton rock 1,000 ft., showing of oil at 1,120 ft., will shoot and acidize.

In Jay County Donald Davis' No. 1 Perry, SE cor. NW NW SE Section 17-24n-12e, drilling at 185 ft.

(Continued on Page 95)

WESTERN KENTUCKY

OWENSBORO, Ky., Sept. 25.—Four oil wells, seven dry holes, and one gas well resulted last week from drilling in the western Kentucky fields. Fourteen new operations were started, not including some deepening operations. Following is the record of the week:

Breckinridge County, Glen Dean district: D. C. Colbeck's No. 5 Joe Moorman, dry hole at 623 ft.

Butler County, Silver City district: Billy Phillips' No. 3 Martha Hawes, location.

Daviess County, Maceo district: Hart & Hart's No. 1 Mrs. Mary Haywood, moving in. Handyville district: Staves Drilling Co.'s No. 4 L. I. Iglehart, moving in. J. C. Miller, trustee, and others' No. 1 Major Oil Co., Burns tract, 150 bbl. from Bethel sand, total depth 1,627 ft. Master Oil Co.'s No. 1 Reiss Brothers, spudding in. Utica district: Master Oil Co.'s No. 1 William and J. E. Johnson, an old Bethel sand well, drilling deeper to the McClosky, drilling at 1,738 ft. C. E. Daugherty and others' No. 3 J. A. Leet, 50-bbl. well in Jones sand after deepening from 1,097 ft. Jett sand, to 1,207 ft., total depth. Farmer and Chenault's No. 1 F. N. Moorman, location. Creek Drilling Co.'s No. 6

(Continued on Page 96)

Southwest Texas District

By F. L. SINGLETON

Test to 9,000 ft. in Victoria; 2 Outposts Given Attention

CORPUS CHRISTI, Tex., Sept. 25.—The attempted blowout of a wildcat in Refugio County, and the testing of a semiwildcat, 1 mile south of the Ben Bolt field, Jim Wells County, held the attention of operators in the Southwest Texas district in the past week.

Norsworthy Production Co.'s No. 1 Mrs. Mattie Wood, in the John Sinnott Survey, 5½ miles west of Refugio, in Refugio County, tried to blowout at a total depth of 6,530 ft. The well was brought under control by pumping in 60 sacks of cement. The operators tried to run an electrical survey, but found the hole bridged 200 ft. off bottom, and were unable to determine at what depth the "kick" was coming from. It is reported that the well started to show gas at 6,487 ft., and the company is of the opinion that the gas is from a shale section, which is known to have shown gas in other wells in the area.

In the same county, and 3 miles east and slightly north of La Rosa field, P. R. Rutherford and Royal Oil & Gas Corp. are rigged up for a 6,500-ft. test on the E. E. Swift lease in Section 25, Esteban Lopez Survey.

Across the line in Victoria County Houston Oil Co.'s No. 1 Jacob Hornstein, 3½ miles southwest of the Coletto Creek field, attracted attention as a 10-minute drill-stem test at 2,116-26 ft. developed 440 lb. of gas pressure. A second test, made below 2,200 ft., recovered salt water, and the well is drilling ahead. Two and one-half miles southwest of the Fordtran gas field Jack Frazier and others are moving in a rig for a 9,000-ft. well on the J. W. Booth lease in Section 10 of the I.R.R. Survey. The recent discovered of the Victoria field and the near-expiration of leases in several blocks have resulted in an active drilling campaign throughout the county. Trinity Drillers and others' No. 1 Edwards, 15 miles south of Victoria, was abandoned at a total depth of 6,006 ft. The same company's No. 1 Bertha Vogt, south of the discovery well of the Victoria field, is drilling below 1,800 ft., while 3½ miles east of the Coletto Creek field George E. Smith and others' No. 1 J. E. Stubbs, in the R. Manchola Survey, is preparing to spud.

Along the Jim Wells County sector of the Frio-Vicksburg trend Rutherford Drilling Co. and others' No. 1 D. Garcia, 1 mile southeast of the Ben Bolt field, is bottomed at 6,015 ft., and 7-in. casing was cemented at 4,705 ft. to test sand logged by an electrical survey at approximately 3,600 ft., 3,800 ft., and 4,100 ft. One mile south of the Wade City field, Rodney DeLange and others' No. 1 McNell, Benito Lopez de Jaen Survey, is coring below 4,200 ft. An electrical survey showed possible sand sections at 2,683-2,745 ft., 2,845-88 ft., 2,932-80 ft., and the well is reported to be running 20 ft. higher than W. R. Quinn and others' No. 1 Pundt, the discovery well, which was completed as a gas and distillate producer at 4,809-14 ft.

In the northeast corner of Jim Hogg County, W. L. Goldston and others' No. 1 E. G. Canales, Marcelo Ynojosa grant, perforated casing at 5,245-58 ft. and 5,215-25 ft., and the well showed salt water on a drill-stem test. The perforations have been squeezed off and the well will be retested early this week. The Cockfield was topped at 5,205 ft. and the Pettus sand at 5,219 ft.

In Duval County two wildcats located on the Cockfield trend, in the eastern half of the county, had reached critical depths. Sam Cunningham's No. 1 E. A. Lopez, P. Caballero Survey, is coring in shale at 5,175 ft. after topping the Jackson formation at 4,577 ft. and the Hockleyensis at 4,837 ft. South Coast Oil Corp.'s No. 1 F. G. Garcia cored sand with a slight gas odor at 4,138-39 ft. and is drilling in shale below 5,110 ft. The Pettus sand was topped at 5,045 ft. One mile north of the Thomas Lockhart field, Taylor Refining Co.'s No. 1 A. Parr showed salt water on a production test at 4,726-29 ft. and was abandoned.

Development in the townsite area of the McCampbell field Aransas and San Patricio counties was resumed, as drilling was started on six wells. Drilling was halted in this field several weeks ago due to low allowables and pipe-line proration.

In the Riverside field Stanolind Oil & Gas Co. staked location for No. 1 Jennie A. Thompson in the J. F. L. de Herrera grant, 1,900 ft. southeast of the company's No. 1 Clark, a gas well. On the east side of the Minnie Bock field, Stanolind Oil & Gas Co. staked location for No. 1 A. N. Parr, in Section 44, a south offset to Andrade's No. 1 Hillard, a recent completion.

Two projected deep wildcats in Kleberg and Cameron counties point to an increase in drilling activity in the Rio Grande district. Southeast of Kingsville in Kleberg County, Humble Oil & Refining Co. spudded No. 1 M. Garza, while in Cameron County, Salviejo Oil Co. and Pure Oil Co.'s No. 2 Newberry Gatewood is drilling below 5,800 ft. on a 10,000-ft. test.

In the Laredo district and located in the Bruni field, Webb County, Tide Water Associated Oil Co.'s No. 7 Bruni, topped the Weches at 5,090 ft., and the Queen City at 5,625 ft., Sandy shale with an oil odor was cored at 5,619-58 ft. This well is scheduled to be drilled to a depth of 9,000 ft., the deepest test ever drilled in the immediate area.

Carolina-Texas Oil Co.'s No. 12 Houston Oil Co., Block 11, R. O. Barnsly Survey No. 268, a deep test for the Carolina-Tex field, Webb County, was drilled to a total depth of 5,474 ft. and is showing as a gas well while cleaning out through perforated casing at 4,960-77 ft. Working pressure on the tubing was 1,082 lb. and casing pressure 1,150 lb.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Aransas-San Patricio Counties

McCampbell field: Bay Tex Corp.'s No. 1 Taber, perforated casing 7,114½-22 ft., and 7,160-63 ft., 80 bbl., ¾-in. choke. J. K. Culton and others' No. 1-B Barry, perforated casing 6,777-82 ft., 70 bbl., ⅛-in. choke. Manahan Oil Co.'s No. 4 Carlock, perforated casing 7,155-61 ft., 77 bbl., ⅛-in. choke. S. E. W. Oil Co.'s No. 1 Davidor-Harris, perforated casing 7,189-97 ft., 120 bbl., ⅛-in. choke.

Bexar County

Coffey field: Philtop Oil & Gas Co.'s No. 7 Cassin, 1,342 ft., dry and abandoned. Gas Ridge field: Stacey & Moore's No. 1 Walsh, 390 ft., dry and abandoned. Salt Flat field: Wiegand Brothers' No. 7-A Briscoe, 2,726½ ft., 150 bbl. oil, 100 bbl. water, pumping.

Duval County

Hoffman field: Magnolia Petroleum Co.'s No. 44 Well. 2,865 ft., 240 bbl., jetting.

Guadalupe County

Dunlap field: Housel Oil Corp.'s No. 2 Appling, 2,363 ft., 42 bbl., pumping.

Hidalgo County

Samfordyce field: Phillips Petroleum Co.'s No. 1 Salinas, perforated casing 4,118-25 ft., 128 bbl., ⅛-in. choke.

Jim Hogg-Brooks Counties

Kelsey field: Humble Oil & Refining Co.'s No. 17 McGill, 4,728 ft., 21 bbl., ¾-in. choke. Humble Oil & Refining Co.'s No. 20 McGill, 4,727 ft., 164 bbl., 7/64-in. choke. Humble Oil & Refining Co.'s No. 21 McGill, 4,736 ft., 88 bbl., 7/64-in. choke. Colorado field: Humble Oil & Refining Co.'s No. 6 Atwood, 3,078 ft., 82 bbl., ⅝-in. choke.

Jim Wells County

Ben Bolt field: Graham Brothers' No. 1 Smith, perforated casing 5,267-71 ft., 115 bbl., 3/32-in. choke. Reynolds field: Rand Morgan No. 1 fee, 6,012 ft., dry and abandoned. Texas Gulf Producing Co.'s No. 4-A Miller, perforated casing 5,148-50 ft., 120 bbl., ⅛-in. choke. South Alice field: Atlantic Refining Co.'s No. 4-BC Bankers Mortgage Co. perforated casing 5,318-24 ft., 96 bbl., ⅛-in. choke.

Medina County

Chacon Lake field: A. A. Murrell's No. 8 fee, 374 ft., 3 bbl., pumping. A. A. Murrell's No. 9 fee, 386 ft., 2½ bbl., pumping.

Nueces County

Luby field: Humble Oil & Refining Co.'s No. 1 King ranch, perforated casing 5,054-56 ft., 82 bbl., ⅛-in. choke. Minnie Bock field: C. Andrade's No. 2 Hillard, perforated casing 3,822-24 ft., 130 bbl., ⅛-in. choke. C. Andrade's No. 1 Minnie Bock, perforated casing 3,822-26 ft., 90 bbl., 5/32-in. choke. Awoeb Oil Co.'s No. 3 Bock, perforated casing 3,814-20 ft., 45 bbl., 9/64-in. choke. C. Andrade's No. 1 Hillard, perforated casing 3,818-22 ft., 130 bbl., 5/32-in. choke. Richard King field: Southern Minerals Corp.'s No. 8-B King, 6,155 ft., dry and abandoned. Saxet field: Texas Gulf Minerals Co.'s No. 2 Humphrey perforated casing 5,755-60 ft., 80 bbl., ¼-in. choke.

Refugio County

Refugio field: William F. Morgan's No. 6-D Mitchell, perforated casing 6,372-75 ft., 194 bbl., ⅛-in. choke. Greta field: Union Producing Co.'s No. 24 Fox, perforated casing 5,822-34 ft., 30 bbl. oil, 5 bbl. salt water, ⅛-in. choke.

San Patricio County

East White Point field: O. W. Killam's No. 1 Taft Syndicate, perforated casing 5,575-90 ft., 132 bbl., ⅛-in. choke. Plymouth Oil Co.'s No. 2 Mayo, perforated casing 5,646-61 ft., 120 bbl., 7/64-in. choke.

Starr County

Sun field: Sun Oil Co.'s No. 1 Lopez, perforated casing 4,945-57 ft., 70 bbl., ⅛-in. choke.

Webb County

West Cole field: Magnolia Petroleum Co.'s No. 6 Benavides, sand 2,337-47 ft., 50 bbl., pumping.

Williamson County

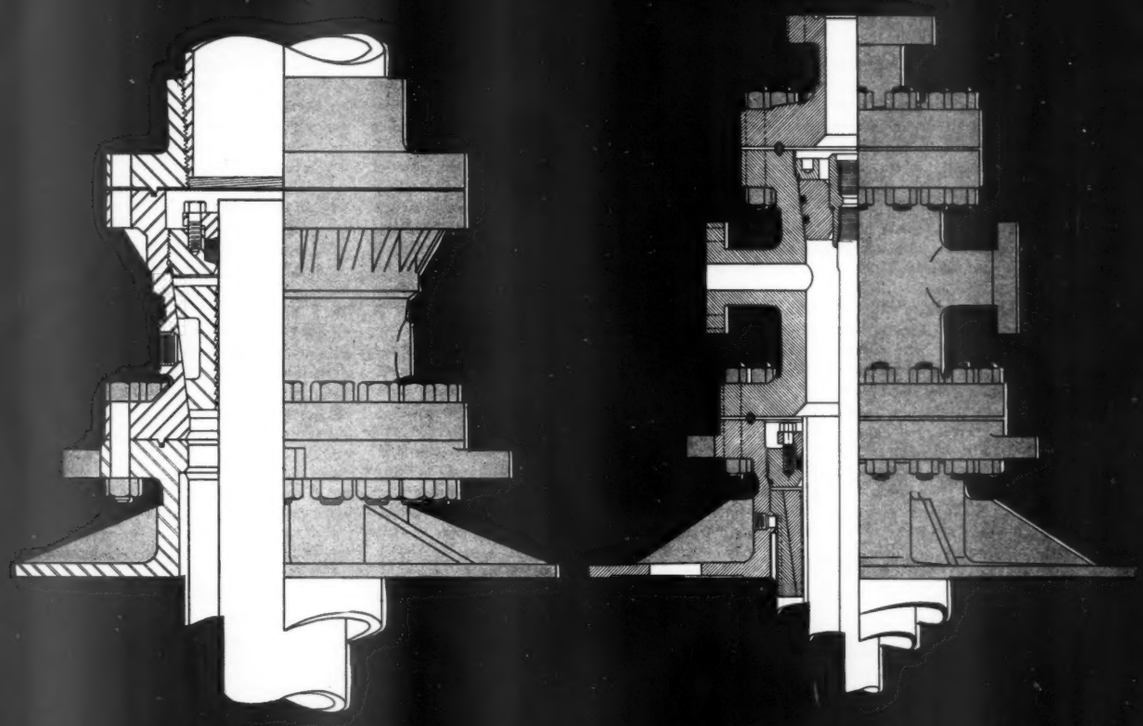
Byersville field: John Nash and others' No. 1 Heap, 920 ft., 120 bbl., pumping.

Zapata County

Escobas field: Dulup Oil Co.'s No. 42 Trevino, 2,285 ft., dry and abandoned. Texas Co.'s No. 128 Measles, 1,326 ft., dry and abandoned.

Anglo-Canadian Plans

Announcement has been made by A. J. Nesbitt, president of Nesbitt, Thomson & Co., of Montreal, that the Anglo-Canadian Oil Co., sponsored by his firm, will probably spend more than $1,000,000 in further Turner Valley development during the coming year, plans under consideration involving the drilling of 10 or 12 additional wells. The Anglo-Canadian Oil Co. and associated firms now have more than 12 crude producers in Turner Valley, and control the Central Refinery at Brandon, Man., which is processing approximately 1,000 bbl. daily of Turner Valley crude.



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Michigan Field Report

By
O. C. PRESSPRICH

New Southwestern Pool Is In Sight in Ottawa County

SAGINAW, Mich., Sept. 25.—Possibility of a new southwestern Michigan oil pool was seen in the successful completion of a wildcat test in Zeeland Township, 5n-14w, Ottawa County, while another good well bore out the promise of the same county's Tallmadge Township area, 7n-13w, being developed in connection with exploration continually extending the Walker-Wyoming field in Kent County.

The Zeeland discovery is not expected to lead to more than a small new field, however, as several unsuccessful exploratory tests previously had been abandoned to the south and east. Freeman Oil Co. drilled the discovery, which had an initial production after an acid treatment of 130 bbl. daily. It is No. 1 Gerritt Huyser, SW SE SE Section 5.

During the past week Pure Oil Co. extended the Sherman-Broomfield pool in Isabella County one location to the southeast; a half dozen Central Michigan wildcats were getting close attention as they neared final stages; there was a letdown in completions in the Kent field and numerous disappointments in the declining Van Buren County area.

Seventeen new wells increased the state's daily potential production of crude by 7,630 bbl., Clare County development accounted for nearly half of the new oil. Eleven operations were abandoned as dry and two locations were abandoned. A big natural-gas well was added in Lincoln Township of Clare County.

A new record for well drilling in Michigan became a fact last week as the State Conservation Department granted 36 more permits to bring the total for this year to more than 1,000. In 1938, the best previous year, the total of permits was 996.

Best of the week's new wells was Pure Oil Co.'s No. 2-A State-Sparrow in Section 29-19n-6w, Redding Township, Clare County. Natural daily potential of the producer was 2,211 bbl. In Section 32 of Redding, American Drilling Co. completed No. 6 Ida B. Newcomer, and the well, maintaining the average of its predecessors, rated 780 bbl., naturally, a day. Turner Petroleum Co.'s No. 3 Charles Wheeler in Section 34 was good for 666 bbl. a day, naturally. The Lincoln Township natural-gas well in Section 20 rated 10,900,000 cu. ft. a day for American Production Co. In Lincoln, Section 27, John A. Mercier, testing for oil on his own holdings, failed to get oil and abandoned the attempt after drilling to 4,070 ft.

For the Walker-Wyoming field the average potential for the six new producers was considerably below par, the total being but 1,812 bbl. In addition there were two dry holes in Wyoming and the area also was the scene of a wildcat failure as a test in Plainfield Township, 8n-11w, was abandoned after unusually deep drilling to a total depth of 2,268 ft. Best of the new Kent wells was the Smith Petroleum Co. and others' No. 1 Julia Sullivan in Section 30 of Walker, 7n-12w. It had natural potential of 20 bbl. an hour.

In Tallmadge Township, 7n-13w, of Ottawa County, Edward B. Strom completed No. 2 Park Association in Section 25, acidizing the well to get potential of 600 bbl. daily, but in Section 35, Muskegon Development Co.'s No. 1 Mary Weston was dry and abandoned. In Sections 23 and 25 of Ottawa's Zeeland two wildcat tests were abandoned.

The extension in the Broomfield area, 14n-6w, was Pure Oil Co.'s No. 15 Stanley E. Wiile in Section 4. It was good for 350 bbl. a day.

Allegan, Clyde, Monterey, Overisel and Salem townships of Allegan County all recorded failures during the week, but in Salem, 4n-13w, there were three moderate producers to offset the one dry hole in that field. In Van Buren's Columbia Township, 1s-15w, Consolidated Developers completed a well good for 384 bbl., naturally, in Section 12, while in Section 23, Clapsaddle & Harris had one good for 200 bbl.

Among the disappointments to the wildcatters was Darke Brothers' failure in Saginaw County's Fremont Township, 11n-2e. No. 1 Louis Butler failed to log Dundee oil possibilities and was abandoned after being drilled to a depth of 3,152 ft.

Among the Central Michigan wildcats now being drilled, interest centered in Dr. Virgil R. D. Kirkham's No. 2 Neer in Section 26 of Lyon Township, Roscommon County, 24n-4w. The test was below 3,100 ft., near the Dundee casing point and operators optimistic over chances for a production horizon. At varying stages are tests drilling in Ingersoll Township, Midland County; in Gratiot's New Haven Township, Mecosta's Fork Township, Winterfield of Clare County and Norwich of Missaukee. Three miles to the northeast of the Sherman pool W. R. Borough, Inc., was below 3,800 ft. with No. 1 Walsh wildcat, but it was reported water had appeared. If the test is a failure in the Dundee, operators may plug back to the Traverse where a natural pay of 8 to 10 bbl. a day was reported.

Eleven of the week's 36 permits for new wells were for Walker-field locations while Allegan, Ottawa and Van Buren had five each and wildcat tests were given sanction for locations in Wexford and Monroe counties.

Allegan County

Allegan Township (2n-13w)—Brailey Oil Syndicate abandoned location for No. 1 Eugene C. Smith, NW SW NW Section 11.

Clyde Township (2n-15w)—No. 2 Rhodes, NW NE NW Section 32, drilled by McKenna Oil Co. and others to a depth of 1,240 ft., was abandoned as a dry hole.

Monterey Township (3n-13w)—Smith Petroleum Co.-Bridger Basin Oil Corp.'s No. 1 Commans was drilled to a depth of 1,825 ft. before being abandoned.

Overisel Township (4n-14w)—R. E. Bradley and P. F. Broughton abandoned location for No. 1 Hoffman, SE SE SE Section 16.

Salem Township (4n-13w)—Acidized, production was 150 bbl. a day from the Red-Man Oil Co.'s No. 2 J. Heibel, SE SE SE Section 2, completed at 1,626 ft. Gordon Oil Co.'s No. 2-A William A. Miller, NW NW NE Section 10, completed at 1,606 ft., rated 200 bbl. daily after acid treatment. Packer Petroleum Co.'s No. 1 Anna Dykstra, NW SE SW Section 23, was a dry hole, abandoned at 1,650 ft. Salem Gas & Oil Co.'s No. 4 Allis Smith, NW SW NW Section 23, completed at 1,583 ft., was treated with acid, bringing daily potential to 150 bbl.

Clare County

Lincoln Township (18n-5w)—American Production Co. completed a good gas well, No. 2 D. W. Frackelton, C NE¼ Section 20, producing 10,900,000 cu. ft. a day. Total depth was 1,593 ft. John A. Mercier, drilling his own No. 1, C N½ NE SE Section 27, for oil, abandoned the test when 4,070 ft. of hole failed to develop oil in appreciable amount.

Redding Township (19n-6w)—Pure Oil Co. No. 2-A State-Sparrow was the best of the week's new wells in Michigan, rating 2,211 bbl. a day, naturally. The well in C N½ SW SE Section 29, was completed at total depth of 3,859 ft. American Drilling Co. completed another of the profitable Ida B. Newcomer wells, No. 6, C S½ SE NE Section 32, having initial potential of 760 bbl. a day, naturally. It was completed at 3,899 ft. Another good well was the Turner Petroleum Corp.'s No. 3 Charles Wheeler, C W½ E½ NW Section 34, good for 666 bbl. a day, naturally, at depth of 3,923 ft.

Kent County

Plainfield Township (8n-11w)—An exploratory test was abandoned by Carl J. Neal as the No. 1 Edward Robinette, SW SE NE Section 34, failed to show oil although drilled to 2,268 ft.

Walker Township (7n-12w)—There were only three Walker-field completions, none unusual, and all being in Section 30. They are the Voorhees Drilling Co.'s No. 4 Cummings, NW SW SE, rating 370 bbl., naturally, at a total depth of 1,875 ft.; No. 1 Julia Sullivan, SW NW SW, developed by Smith Petroleum Co. and others, which did 480 bbl., naturally, at the same depth, and the same interests' No. 1 Handley-O'Sullivan, SW SE SW, completed at 1,874 ft. and having natural initial of 288 bbl.

Wyoming Township (6n-12w)—Two of five Wyoming tests were abandoned as dry holes. The Rex Oil & Gas Co.'s No. 1 Central Land Co., SW NW NE Section 3, rated 324 bbl. after acid, being completed at 1,790 ft. Lamar Oil Co.'s No. 3 Grand Rapids Gravel Co., SW NW SE Section 4, was good for 100 bbl. a day after acid at total depth of 1,767 ft. Pyramid Oil Co.'s No. 3 Carroll-Stiles, NE SE SE Section 4, completed at 1,772 ft., rated 250 bbl. a day after acid. Dry holes were the Gordon Oil Co. and others' No. 1 Grand Rapids Industrial Land Association, SW SE NE Section 26, abandoned at 1,911 ft., and Robert W. Atha's No. 1 Tanglefoot, SW SE SE Section 9, abandoned at 1,915 ft.

Isabella County

Broomfield Township (14n-6w)—The Pure Oil Co.'s No. 15 Stanley E. Wiele, C S½ NE NE Section 4, completed at 3,619 ft., produced at 350 bbl. a day after being acid-treated.

Ottawa County

Tallmadge Township (7n-13w)—Rating 600 bbl. a day, after acid treatment, Edward B. Strom's No. 2 Park Association, NE SE SE Section 25, was completed at 1,862 ft. Muskegon Development Corp.'s No. 1 Mary Weston, NE NE SE Section 35, was dry and abandoned at 2,069 ft.

Zeeland Township (5n-14w)—Regarded as possibly opening a new field, Freeman Oil Co.'s No. 1 Gerritt Huyser, SW SE SE Section 5, was acidized for 130 bbl. a day, being completed at 1,665 ft. There were indications, however, that the find will not be extensive as two other tests in the same township were failures. The abandoned tests were No. 1 James Maatman, NW NE SE Section 23, drilled by Gordon F. VanEenenaam and others to a depth of 1,642 ft. and the No. 1 Henry Yntema, NW SE NE Section 25, drilled by D. D. and H. A. Battjes. Total depth was 1,709 ft.

Saginaw County

Fremont Township (11n-2e)—Darke Brothers abandoned No. 1 Louis Butler, NW NW NE Section 11, at 3,152 ft.

Van Buren County

Columbia Township (1s-15w)—Consolidated Developers completed No. 1-B Ada Ford, NW SE SW Section 12, at 1,186 ft. and production potential was 384 bbl. a day, naturally. Clapsaddle & Harris' No. 1 Mary Willerton, NE NW NE Section 23, rated 200 bbl. daily after being acidized. Total depth was 1,206 ft.

Restrictions Lifted

BRADFORD, Pa.—The South Penn Oil Co. announced September 20 it would lift restrictions October 1 on crude-oil purchases in the Bradford-Allegany field. Following the example of the Tide Water Oil Co. which announced similar action, South Penn said it would accept 100 per cent of the crude volume contracted for in the area. For several months both firms have been taking only 75 per cent of the base figure. Nearly all other purchasers have been accepting 100 per cent of their contracts.

West, Central and Panhandle Texas

By D. H. STORMONT

Pecos County's Ordovician Wells Increase Production

MIDLAND, Tex., Sept. 25.—Increased activity and indicated plans for an immediate development campaign for the recently opened Ellenburger (Lower Ordovician) Apco pool in northern Pecos County, far exceeded other development in West Texas during the week past.

The second Apco well is a 2,000-bbl. producer and the original discovery well was cleaned out and shot for a production increase of 240 bbl. daily, making it good for 424 bbl. per day. At the close of the week there were four new locations in the field. Drilling is being advanced on the plan of 40-acre spacing, which places three of the new locations in the NE¼ Section 104, and the fourth in the NE SW Section 104. Three of the locations are by Anderson-Prichard Oil Corp. of Oklahoma City and are north, northeast and east offsets to the same operators' discovery well in the southwest quarter of the northeast quarter of the section. Magnolia Petroleum Co.'s No. 1 Masterson, the second well in the field, is a direct west offset to the pool opener and its new location is a south offset to Magnolia's 2,000-bbl. well. Anderson-Prichard Oil Corp. has under lease the west 80 acres of the NE¼ Section 104 and has the deep rights on the other half of the quarter section. Magnolia Petroleum Co., under similar arrangement, has deep rights on the quarter section containing its new location.

The Apco pool is the third Ordivician-producing oil pool in West Texas, the other two being the Big Lake field in Reagan County and the Sand Hills field in Crane County. Apco is between the shallow producing Masterson pool and the Shearer pool and is believed by some to be producing from a large deep structure, the reflection of this large structure being the basis for production in the two shallow fields located thereon. Considerable exploration has been carried on in northern Pecos County during the past 2 years in an attempt to locate a deep Ordovician structure, Magnolia Petroleum Co. having been one of the most active in the campaign. There is considerable speculation among operators regarding the extent of the new pool, and as a result of the new Ordovician pool Humble Oil & Refining Co. has staked a deep Ordovician wildcat about 8 miles north of the Apco pool and in extreme northern Pecos County. It is in Section 33, Block 10, H.&G.N. Survey, 3 miles southwest of Magnolia Petroleum Co. No. 2 Abell-Eaton, Ordovician failure.

In Crane County Gulf Oil Corp.'s No. 11 W. N. Waddell and others, promising a 2-mile north extension to Sand Hills Permian production, had resumed drilling at 4,660 ft., after bailing tests at that depth had shown a decreasing amount of oil. A 3-hour test yielded 5½ bbl. of oil or a decrease from previous tests of about ⅝ bbl. hourly. Tubbs pay zone had been logged from 4,490 to 4,505 ft. and from 4,625 to 4,635 ft. Location is in Section 20, Block 21-B, P.S.L. Survey.

Activity in the North Cowden pool of Ector County centered around the staking of a new ¼-mile east outpost and the drilling of the recently announced deep test by Stanolind Oil & Gas Co. on the west side of the field. New east outpost is the Tide Water Associated Oil Co. and Edson's No. 3 Roberts, 440 ft. from the S and 1,270 ft. from the E lines of the NE¼ Section 22, Block 3, P.S.L. Survey. On the west side of the field, Stanolind Oil & Gas Co. is drilling below 4,837 ft. in No. 1-A Blakeney, Section 28, Block 43, T.&P. Survey, projected to the new pay horizon opened several months ago by Gulf Oil Corp.'s No. 1 O. B. Holt about 2 miles north of the new Stanolind test. The new deep horizon is about 1,000 ft. below the regular pay section of the North Cowden field.

North Basin

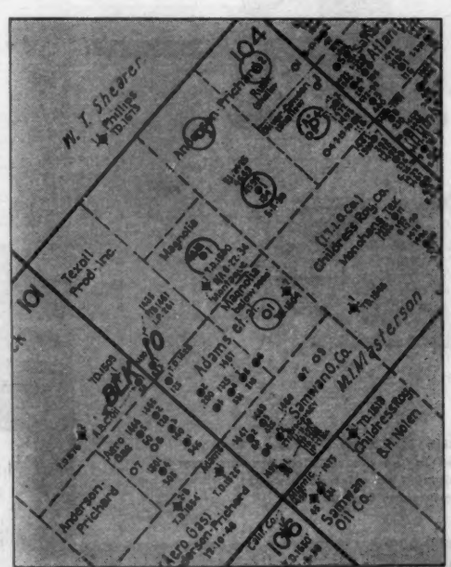
Seven new completions were recorded in the Wasson-Denver-Bennett pool of Gaines and Yoakum counties, together with testing at several closely watched outpost wells, led the development in the North Permian basin. The seven new wells had an aggregate initial potential of 6,131 bbl. daily. A ½-mile northwest outpost to the Roberts area of the pool, Aloco Oil Co.'s No. 1 W. S. Knight, SE cor. Section 773, is testing after being shot with 600 qt. at 4,937-5,244 ft., total depth. Honolulu Oil Corp. and Cascade Petroleum Corp.'s No. 5-741 Willard, in the southwest extension area of the Bennett field, was running 2½-in. tubing to test at a total depth of 5,220 ft. Allison's No. 1 Bush, 1 mile northeast of the Bennett pool and about 1⅛ miles south of the one-well Wapples-Platter area, was cleaning out with cable tools at a total depth of 5,378 ft.

In Gaines County the first full 24-hour potential gage was reported for Stanolind Oil & Gas Co.'s new pool opener on the J. B. Rayner lands, SW cor. Section 3, Block 30-C, P.S.L. Survey. The well made 1,279 bbl. of oil through 2½-in. tubing by air lift. Previous to starting the 24-hour test the well had produced 722 bbl. in 13 hours by air lift. The well is located on the east side of Cedar Lake.

In Dickens County, continuing its deep exploration campaign, Humble Oil & Refining Co. has staked location for its second deep wildcat on the Matador lands which extend northward into Motley County. It is understood that Humble plans a test in Section 100, Block M, in northeastern Dickens County, just south of the Motley County line.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Sept. 25.—The celebration of the 20-year-old oil boom at Breckenridge, in Stephens County, somewhat outshone oil activity in the West Central Texas district during the past week. With the celebration of the boom of 1919 is seen the possibility of another oil field for Stephens County, perhaps of major magnitude. The discovery well is Wittmer Oil & Gas Properties' No. 1 Loving, which gaged 1,200 bbl. of oil daily from the Caddo lime from 3,492 to 3,512 ft. This is one of the few large pool openers since the days of the old Breckenridge and Ranger pools in West Central Texas. The well is in SE¼ Section 66, B.A.L. Survey, 3 miles southeast of the Phillips Petroleum Co.'s Ibex pool. Several major companies are reviving the lease and royalty activity around the new well and small independent operators are reported to be acquiring considerable acreage even several miles from the well. The discovery operators are planning a second test in the area in the near future.



Southwest Mapping Co., Fort Worth

Northern Pecos County's deep Ordovician producing Apco pool is the center of most of the attention in West Texas. Two wells are completed and four location have been staked

A new Bluff Creek sand pool in Shackelford County was opened by Fain-McGaha Oil Corp. of Wichita Falls at its No. 1 Dawson-Conway, Peter G. Holcomb Survey, 7 miles northeast of the Lueders pool and 3 miles north of the Bluff Creek pool. The well drilled Bluff Creek sand from 1,491 to 1,497 ft. and was estimated at 100 bbl. daily, natural flow. It was drilled on a block of 834 acres of which 160 were turned to Moran Brothers for the drilling. Pumping equipment is being installed and potential gages are expected early this week.

Northern Jack County is experiencing considerable leasing and geophysical exploration work as a result of the recent exploration in the southern part of Clay County. Several new blocks have been taken by major companies, both in northern Jack County and in southern Clay. Gulf Oil Corp. has acquired two 10,000-acre blocks on the northern Jack County line and extending into southern Clay County. One is immediately east of the town of Postoak and embraces the J. N. Seguin Survey, J. B. Atkinson Survey, A. N. Norrell Survey and several others. Just west of the southern Clay County town of Shannon, Gulf has acquired about 10,000 acres out of the southern part of the Texas Immigration & Land Co. Survey and extending southward into the R. Parker Survey, northern Jack County. These blocks are, respectively, southeast and south of the Burns pool in the southwestern part of Clay County.

The fourth oil well was completed during the week in the Bowles pool on the Taylor-Callahan county line The new producer is W. J. Murray's No. 3 Joe Evans, which pumped 82 bbl. of oil daily plus 1 per cent water from the pay section at 1,734-57 ft., total depth. The test is 1,480 ft. from the S line and 520 ft. from the W line of SW¼ Section 28, B.A.L. Survey. A north outpost to the pool has been staked by French Robertson and others, No. 1 Reeves, extreme SW cor. NW¼ Section 28, B.A.L. Survey.

Young County activity remained steady during the week as new production from the Caddo lime led the development. Four oil wells were completed in various parts of the county. In the Sewall pool, 4 miles east of Graham, Henry Zweifel's No. 3-C D. R. Sewall, W. H. McDowell Survey, flowed 90 bbl. of oil in 3 hours through ⅝-in. choke from pay found from 4,022-31 ft. North of the Sewall pool Stanley Thompson's No. 1-A J. C. Vaughn, in the southeast part of Block 3, T.&N.O. Survey, cemented 7-in. casing on top of lime at 3,934 ft. after coring 3 ft. of saturation. Taubert & McKee's No. 1 H. C. Shanafelt, between the recently opened Nelson pool in Jack County and production to the southwest in Young County, was drilling below 3,900 ft. and projected to the Nelson pool pay section at about 4,400 ft. The test is located in the J. Pointevent Survey, 2 miles west of Bryson, in Young County.

WEST TEXAS FIELD COMPLETIONS

(24-hour gages)

Crane County

McElroy pool: Gulf Oil Corp.'s No. 200 McElroy, 2,622-2,902 ft., 1,390 bbl. Waddell pool: Gulf Oil Corp.'s No. 27 Waddell, 3,500-12 ft., 5,708 bbl. McCamey pool: Pittman & Simco's No. 1 Continental-Zach-Hughes, 2,330-2,572 ft., 13 bbl. fluid with 50 per cent water.

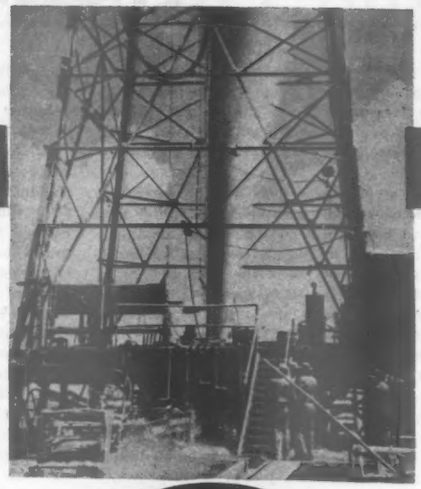
(Continued on Page 99)

HERE'S WHAT HAPPENED IN A SOUTH TEXAS FIELD!

On June 22, during routine drilling operations on an important outpost location in a high pressure South Texas field, the well blew out from a highly charged water sand at 1760 feet. Gas pressure, estimated at 900 lbs., cut out the drive bushings and Kelly, as well as the bellnipple on top of the Cameron Type SDA Pressure Operated Blowout Preventer hook-up. After blowing for two hours, with drill pipe still in the hole, the drilling crew successfully closed the rams of the Cameron Type SDA Blowout Preventer around the pipe, utilizing pressure from a nearby gas line to close the rams.

The obvious conclusion to be drawn from this incident is that equipment designed to withstand substantial cutting action and still seal off tightly is worth whatever it costs. The Cameron self-feeding ram packing element is forced to flow to the pipe, where it makes a pressure tight seal. Each packing element contains many cubic inches of rubber, or neoprene, in reserve which, as needed, is auomatically fed out to the pipe. This is but one of the numerous features of superiority of Cameron Type SDA Blowout Preventers, the complete dependability of which has won the unqualified endorsement of men responsible for the safe drilling and completion of high pressure oil wells.

Complete details will gladly be forwarded to any operator on request.



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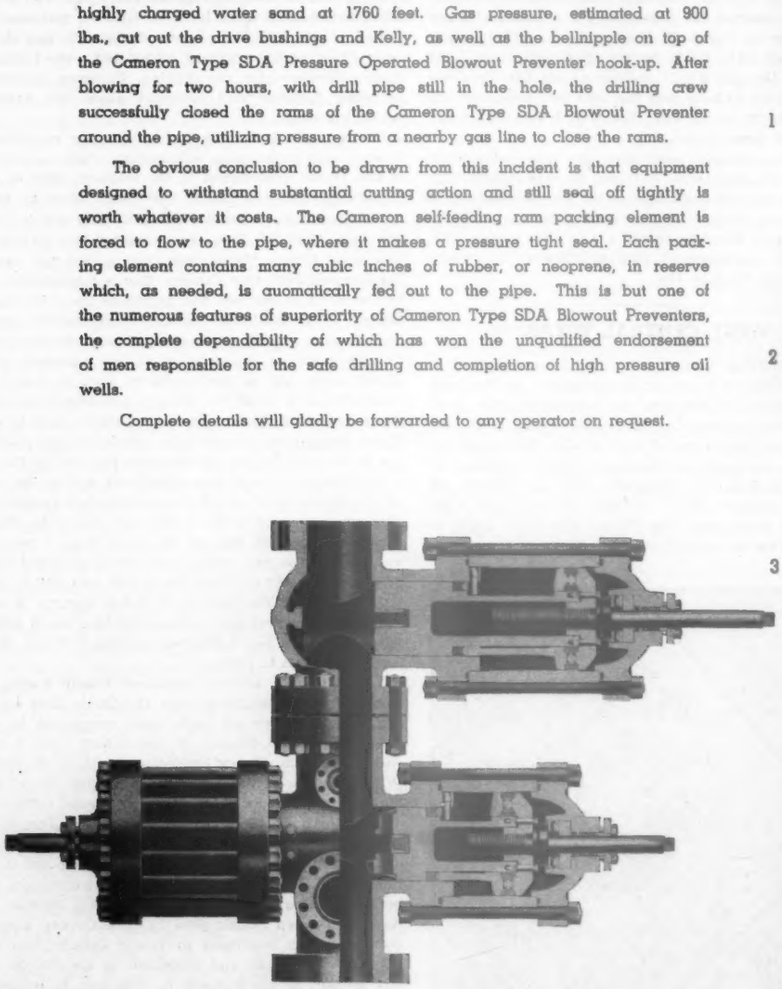

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The rugged construction and mechanical design of Cameron Pressure Operated Drilling Control equipment is clearly illustrated in the cross-section drawing presented above, which is virtually standard equipment on all high pressure drilling operations in the Gulf Coast, Mid-Continent and many foreign fields.

1. **The well, blowing wild.**
2. **Close-up of sand-cut bell-nipple.**
3. **After closing the Cameron Preventer, pressure was bled off through a casing head outlet.**

Oklahoma Operations

By DAL DALRYMPLE

New Pool for Lincoln County; Skellyville District Extended

A Prue-sand pool was opened in northern Lincoln County, near the Payne County line, at Murray & Griffey and R. L. Kemp's No. 1-A Burke, NE SW NE Section 20-17-6. The discovery, with extensions in the Skellyville area and wildcat operations elsewhere, assure an increase in activity in Lincoln County in coming months.

The Burke discovery topped Oswego lime at 2,850 ft., had Prue sand at 2,850 ft. and was bottomed at 2,856 ft. It made several head flows and was reported flowing naturally at the rate of 50 bbl. of oil daily at the week end. It was estimated it would be good for 100 bbl. or more daily after shooting. The location is about 3 miles southeast of the city of Cushing in Payne County and about 5 miles south of the March pool.

The operators have a leased block including the S½ SE Section 17-17-6, in Payne County, and NE¼ Section 20-17-6, N½ SW Section 20-17-6, W½ NW Section 20-17-6, and NW SW Section 21-17-6, in Lincoln County.

Two extension wells in the Skellyville area were showing for producers. One was J. F. Smith's No. 1 Black, C S½ NE SW Section 31-16-6, north extensioner, reported producing 30 bbl. of oil daily from Burgess sand. It previously had been reported dry in Hunton lime at 4,200 ft. Elbar Oil Corp.'s No. 1 Black, SW cor. Section 32-16-6, also was averaging 30 bbl. daily from Burgess sand at 2,796-3,820 ft.

Another large producer was near completion on Cement townsite, in the pool of that name, Caddo County. It was Johnson & Rollins' No. 2 McKenna, Block 27, townsite, which had Rowe sand at 3,414-44 ft. It flowed 341 bbl. of oil in 4 hours, but the flow was reported increasing and expectation was it would make potential of around 4,000 bbl. of oil daily. About 5,000,000 cu. ft. of gas was being produced with the oil.

Wildcat Operations

Grisso Royalty Co. and others' No. 1 Haskins, SE SW SW Section 27-5-4, wildcat west of the Bebee pool, Pontotoc County, was acidized and pumped 75 bbl. of oil in 20 hours, then pumped 50 bbl. in 20 hours to open a new producing sector. It had oil pay in Hunton lime at 2,476-2,621 ft., total depth 2,639 ft. in Sylvan shale.

Clark's No. 1 Rader, NE SE Section 31-9-3e, Pottawatomie County, and Carr's No. 1 Olson, NE SW SW Section 11-10-1w, were abandoned locations.

Supreme Oil Co.'s No. 1 Tilley, NW NW NE Section 20-12-10w, wildcat in Canadian County, was reported abandoned after drilling to 460 ft.

New wildcats included: Blackwell Oil & Gas Co. and others' No. 1 Hamilton, NW NE SW Section 16-3n-8, northeast of the Fitts field, Pontotoc County, rigging up rotary; Marchant's No. 1 Phillips, SW SW NE Section 8-4-5, south of Bebee area, Pontotoc County, rigging up rotary; Burke-Greis Oil Co.'s No. 1 Johnson, NE SE NE Section 25-7-6, in Little River district, Seminole County, rigging up rotary; McNamara's No. 1 Orme, NE SW SE Section 21-21-7, an old well, rigging up machine to deepen from 1,765 ft.; W. A. Delaney's No. 1 Fortman, NW SW SW Section 12-7-2w, Noble area, Cleveland County, location.

Pottawatomie County

Magnolia Petroleum Co.'s No. 4 Billington B, SE SW NE Section 21-7-5, St. Louis field, Pottawatomie County, pumped 125 bbl. of oil in 24 hours after acidizing with 2,000 gal. Production was from dolomite found at 4,039 ft., total depth 4,110 ft.

Southern's No. 1 Jimka, NE NE SE Section 21-7-5, had Calvin sand at 2,741 ft., was bottomed at 2,752 ft., was shot and pumped 13 bbl. of 42-gravity oil in 24 hours.

W. R. Berry's No. 1 Keller, SW NW NE Section 6-10-4, location on Shawnee townsite and west of production in the Shawnee pool, was abandoned.

Atlantic Refining Co.'s No. 1 Harris, NE NW SW Section 6-6-4, an old well in the Avoca area, was plugged back from 4,607 ft. to 4,312 ft., casing perforated at 4,214-54 ft., it was acidized and flowed 462 bbl. of oil in 24 hours.

New activity in Pottawatomie County: T. E. Iglehart's No. 1 Phillips A, NW SW NE Section 4-6-5, location; Alcorn's No. 2 Rice, NE SE NE Section 32-7-4, building rig; Deep Rock Oil Corp.'s No. 2 Miller, SW NE NE Section 32-7-4, cellar and pits; Trigg's No. 1 Boyd, SW NE SW Section 28-7-5, location; Harwood's No. 2 Riddle, SE SE NE Section 29-7-5, cellar and pits.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending September 23, and for the preceding week was as follows:

	Barrels	
	Sept. 23	Sept. 16
Allen	5,550	5,500
Billings	5,750	5,650
Burbank	7,200	7,100
South Burbank	8,125	8,125
Balance Osage	17,350	17,150
Blackwell district	3,375	3,175
Bristow-Slick	6,575	6,575
Chandler	1,350	1,250
Crescent	2,650	2,450
Cromwell	2,975	2,875
Cushing-Shamrock	9,350	9,450
Duncan	3,675	3,575
Edmond	4,075	3,975
Fish	3,675	3,650
Fitts	19,500	22,850
Jesse	1,850	1,850
Graham-Fox	3,200	3,175
Gray	650	650
Healdton	8,900	8,825
Hewitt	3,625	3,525
Keokuk	2,850	2,775
Konawa	1,075	1,050
Lucien	8,225	8,125
Moore	2,550	2,450
Oklahoma City	88,050	89,450
Olympic	1,675	1,675
Ramsey	4,250	4,200
Sasakwa	1,025	1,000
Sholem-Alechem	2,550	2,450
Seminole district:		
Bowlegs	7,225	7,325
Carr City	2,325	2,225
Dora	2,650	2,600
Earlsboro	4,075	4,025
South Earlsboro	450	425
East Earlsboro	3,250	3,300
Little River	5,875	5,825
East Little River	550	525
Maud	500	475
Mission	1,150	1,175
Seminole	6,425	6,225
East Seminole	1,175	1,150
Searight	1,675	1,675
Total Seminole	37,325	36,950
St. Louis-Pearson	26,750	26,825
Tatums	1,075	1,275
Tonkawa-Garber-Thomas	3,875	3,675
Wewoka	1,675	1,625
Yale-Jennings	3,450	3,300
Other pools	91,700	90,400
Total Oklahoma	397,500	398,600

Seminole County

T. E. Iglehart's No. 1-A Lack, SW NW Section 3-6-5, Seminole County extension of the St. Louis field, topped dolomite at 4,097 ft., set 7-in. casing there, and was bottomed at 4,129 ft. After acidizing, it pumped 172 bbl. of oil and 175 bbl. of water in 24 hours.

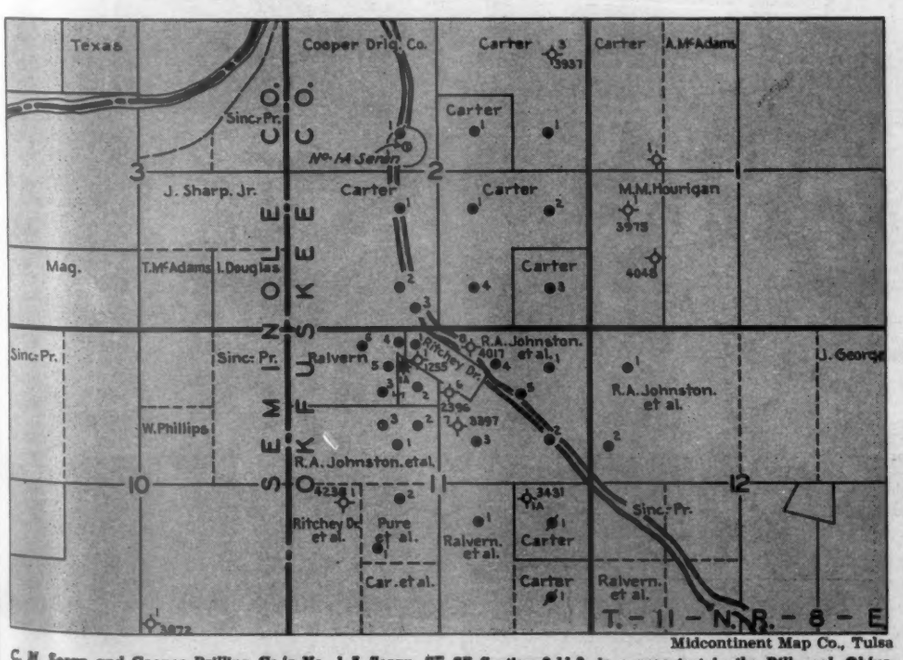
In the Konawa area, Riddle's No. 1 Norvell, NW SW NW Section 29-6-6, had sand at 2,740 ft. and was dry and abandoned at 2,865 ft.

Atlantic Refining Co.'s No. 1 Atkinson, NW SW Section 17-6-6, an old well, was dry and abandoned after plugging back from 4,024 ft. to 2,893 ft.

Amerada Petroleum Corp.'s No. 1 Lasley, NE NW SW Section 19-9-6, an old well, was deepened from 4,135 ft. to 4,152 ft., shot at 4,142-52 ft., and pumped 13 bbl. of oil and 58 bbl. of water in 24 hours.

Sinclair Prairie Oil Co.'s No. 1 Carter, NW NE SW Section 22-7-5, had dug cellar and pits. Wood Oil Co.'s No. 4 Giger, SW NE SE Section 2-8-6, was a location.

(Continued on Page 96)



Midcontinent Map Co., Tulsa

C. M. Seran and Cooper Drilling Co.'s No. 1-A Seran, SE SE Section 2-11-8, is a new test in the Dill pool, Okfuskee County, where several Cromwell sand producers have been completed in recent months

100,000 H.P.

Three CLARK 4-cyl. 400 H.P. "Angles" Stranahind Starboard Lubs Gasoline Plant Texas

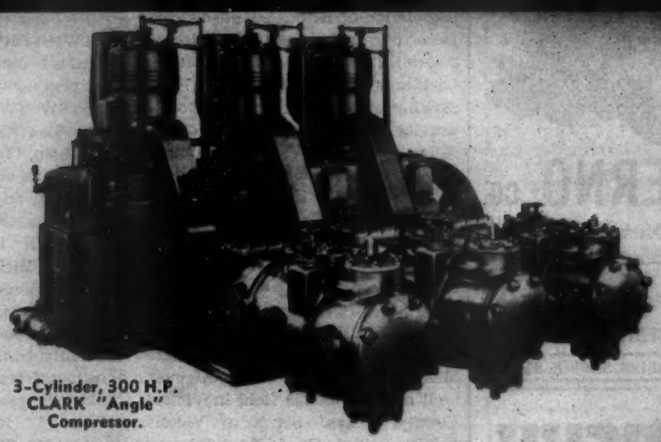
Four CLARK 6-cyl. [illegible] H.P. "Angles" Corpus Christi Cook Recycling Plant South Texas

in 3 Years

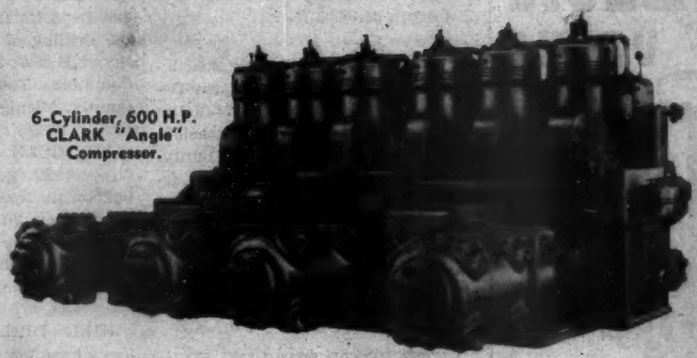
IS SALES RECORD OF CLARK "ANGLES"

The month of September is particularly significant to the CLARK organization because it marks the third anniversary of the shipment of the first CLARK "Angle" Compressor units from the factory. These initial orders covered some 300-H.P. units which were shipped to California and Texas. Since then the line has been developed so that eight models ranging from 165 H. P. to 800 H. P. are now available in gas engine driven units. In addition to this, the full Diesel unit has been developed in sizes from 150 to 600 H. P.

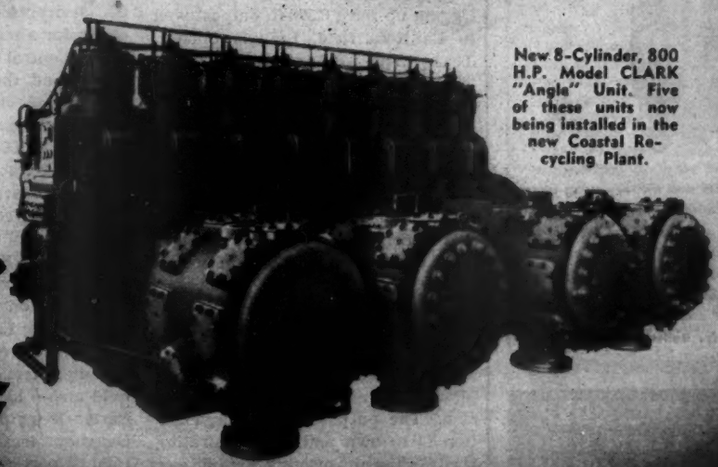
During these 3 years, approximately 300 units, totaling over 100,000 horsepower have moved from the Clark factory into the oil fields of the world. That the unit is increasing in popularity and earning an enviable reputation in the field is attested by the fact that during the month of July, 1939, seven different petroleum companies gave us orders for 28 units totaling 16,650 H.P. The greater part of these orders were repeat orders from satisfied users. We are naturally deeply gratified by such conclusive evidence that our efforts to combine the best of engineering knowledge and design with the finest of material and workmanship, in order to produce the best compressor unit that can be built,—is appreciated by our many friends in the petroleum industry.



3-Cylinder, 300 H.P. CLARK "Angle" Compressor.



6-Cylinder, 600 H.P. CLARK "Angle" Compressor.



New 8-Cylinder, 800 H.P. Model CLARK "Angle" Unit. Five of these units now being installed in the new Coastal Recycling Plant.

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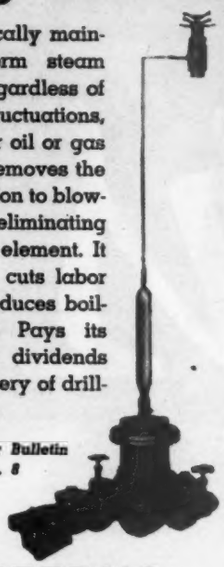

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6000 SOUTH ALAMEDA STREET
LOS ANGELES, CALIFORNIA
CABLE ADDRESS "OWMCO"

Among the Drilling

HOUSH & THOMPSON are moving a large rotary to Jefferson Davis Parish, coastal Louisiana, where location was made for their No. 1 Lacassine Co., Inc. The well is located in Section 29-11s-5w, northeast of the Chalkley field.

JACK FRAZIER opened a pool in Fort Bend County, Texas, with the completion of H. C. Cockburn's No. 1 Dezerzanowski. The field is located 2½ miles west of the town of Rosenberg and was completed at 7,743 ft. flowing an estimated 15 bbl. of 52-gravity distillate per day through a ¼-in. choke. In Victoria County, a 9,000-ft. wildcat will be drilled jointly with the Continental Oil Co. and Wellington Oil Co. The well is to be drilled on the J. W. Booth lease, 2½ miles southwest of Fordtran in the I.R.R. Survey.

TRINITY DRILLERS, INC., has spudded No. 1 Bertha Vogt, located about 1,500 ft. south of the discovery well of the Victoria field in Victoria County, Texas. South of Victoria Trinity Drillers, Inc.'s No. 1 Edwards ranch was abandoned as a dry hole at a depth of 6,006 ft.

GLENN H. McCARTHY staked location for No. 2 Houston Farm Development Co., 3,000 ft. north of the discovery well of the Chocolate Bayou field in Brazoria County, Texas. In the Anchor area, McCarthy's No. 1 J. C. Carr is bottomed at a depth below 10,500 ft., and casing is expected to be cemented for a production test as several sands showing oil and gas were logged by an electrical survey.

RUTHERFORD DRILLING CO. is rigging up for a 6,500-ft. outpost well in La Rosa field, Refugio County, Texas. The well is located on the E. E. Swift lease, northeast of production in the Esteban Lopez Survey. In Jim Wells County and 1 mile south of the Ben Bolt field, the company's No. 1 Garcia, a joint test drilled with Royal Oil & Gas Co., is bottomed at 6,015 ft., and 7-in. casing was cemented at 4,705 ft. to test possible oil sands at 3,600 ft., 3,800 ft. and 4,100 ft.

OSAGE DRILLING CO., Oklahoma City, Okla., has been granted a foreign corporation charter by the New Mexico State Corporation Commission. The purpose of the organization is to own and operate drilling rigs for the prospecting for oil, gas, and water. V. B. Likins, G. E. Hall and Max D. Westbrook are the incorporators; amount of capital is $10,100, all of which is available.

BURR LAMBERT, Centralia, Ill., was rigging up last week on C. A. Evarts' No. 1 Andy Bump, near the town of Keensburg, Ill. The test is located on a 20-acre tract ½ mile north of the Keensburg discovery well.

TWIN DRILLING CO., Tulsa, has contract for the drilling of G. H. Schrack's No. 1 Abraham Busker, C E½ SW SW Section 7-22n-9w, Haring Township, Wexford County, Michigan. It is also ready to start operations on Fisher & McCall Oil & Gas, Inc., and W. E. Sackner's No. 1 Newhouse, SW SE NW Section 29-7n-12w, in the Walker field, Kent County, Michigan. Rotary rigs will be used on both tests, an unusual feature in Michigan where cable-tool work predominates. The company recently transferred I. F. Scott, tool pusher, from Kansas to Michigan to take charge of drilling operations.

ADAMS DRILLING CO., St. Elmo, Ill., received permit from the Michigan Department of Conservation for the drilling of its No. 1 Anna Dubsky, NE SW SE Section 29-1s-15w, Columbia Township, Van Buren County, Michigan.

AMERICAN DRILLING CO., Saginaw, Mich., got a potential of 650 bbl. on its No. 6 Newcomer, S½ SE SE Section 3-18n-6w, Clare County, Michigan. The well flowed 260 bbl. in 8 hours when it was completed last week.

KING DRILLING CO., Abilene, Tex., together with the Moutray Oil Co., also of Abilene, have staked location for a wildcat in Jones County, West Central Texas, between the Sayles and the Guitar pools. It is their No. 1 B. J. Rutledge, 150 ft. from south and 425 ft. from east lines of a 100-acre tract in Section 2, Block 20, T.&P. Survey. Materials are being moved to the location and drilling will commence at once.

W. B. JACKSON DRILLING CO., Longview, Tex., has the contract for a new test on the southwestern side of the Long Lake field of Anderson County, eastern Texas. This is the first new test for some time in the field and is located southwest of the Carter-Gregg production on the McGaughey lease in the Anderson County portion of the field. Test is Carter-Gregg Oil Co. and F.H.E. Oil Co.'s No. 1 A. W. Johnson, 575 ft.

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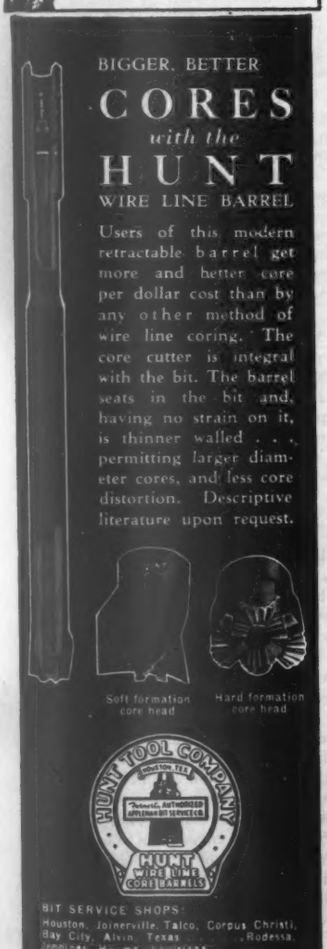
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southwest of the northwest corner of a 744-acre tract in the Simon Sanchez Survey. Materials are being moved in for immediate drilling.

HELMERICH & PAYNE, INC., Tulsa, and Burke-Greis Oil Co. drilled through the Calvin sand at No. 1 Bennie Johnson, NE SE NE Section 25-7-6e, southeast of the Little River pool in Seminole County, Oklahoma. The Calvin sand was topped at 1,139 ft.; oil saturation was sufficient to indicate that the horizon has commercial possibilities at this location. The well is being drilled to test deeper horizons. Helmerich & Payne, Inc., at No. 3 Collins, W½ NE NW Section 13-17-1, Payne County, Oklahoma, set surface pipe and has been waiting for cement to set.

G. & M. DRILLING CO.'S No. 1 Manning, S½ SE NE Section 24-6-4, Gray pool, Oklahoma, drilled out cement plug set in Earlsboro sand topped at 2,900 ft. It was shut in for tankage during a flow of oil. The well was bottomed at 2,939 ft.; it was estimated to be a 500-bbl. well.

H. & M. DRILLING CO. has been rigging up drilling machine at No. 5 Sellers, NW NE NE Section 31-19-1w, McPherson County, Kansas.

HERNDON DRILLING CO., Tulsa, has been drilling pits for No. 1 Carrie Durr, SW¼ Section 18-18-7w, Rice County, Kansas.

PORTABLE DRILLING CO.'S No. 4 Boyd, NE SE Section 29-7-5, St. Louis area, Oklahoma, swabbed 610 bbl. of oil in 24 hours after acidizing with 4,000 gal.; the hole was bottomed at 4,165 ft. in dolomite; Viola lime was topped at 4,016 ft. and 7-in. casing was cemented at 4,078 ft.

SIMPSON-ROODHOUSE DRILLING Co., Ada, Okla., is deepening No. 1 Thompson, SW SE Section 34-2n-7e, South Fitts area, Oklahoma. At a depth of 1,864 ft., where the well was 5 ft. in sand, it made 60 bbl. of oil daily.

JOHNSON-KEMNITZ DRILLING Co., Oklahoma City, Okla., and McGraw Oil Co. have been drilling No. 1 Godfrey-Neff, SW SE NE Section 14-6s-6e, near Madill, in Marshall County, Oklahoma. Drilling is proceeding below 2,050 ft.

CONLEY DRILLING CO., Shawnee, Okla., drilled No. 1 Selby, NE¼ Section 8-15-6e, in the Skellyville area of Lincoln County, Oklahoma. In 8 hours of swabbing and flowing the well made 65 bbl.; in 24 hours of gas lift it made 65 bbl.

OLSON DRILLING CO., Odessa, Tex., has been awarded the drilling contract for the third deep Ordovician test in Pecos County's new Apco pool. It will be Anderson-Prichard Oil Corp.'s No. 2 M. I. Masterson, a scheduled 4,600-ft. rotary test, 660 ft. from the northeast and 660 ft. from the northwest lines of Section 104, Block 10, H.&G.N. Survey. It is 2,060 ft. north of the same operator's No. 10 Masterson, pool discovery. The Apco pool is now composed of two flush producers and both the Anderson-Prichard Oil Corp. and the Magnolia Petroleum Co. have several locations staked to assure the area of immediate development.

GEORGE LIVERMORE, drilling contractor of Odessa, Tex., has the contract for the recently staked deep wildcat test in Cochran County, West Texas. Test is Dean & Hyde's No. 1 Reed, scheduled 5,100-ft. rotary wildcat on a block of 4,000 acres. Location is in Section 21, Harrison County School Lands, and 6½ miles southwest of the Dean pool in Cochran County. Derrick is being erected and test will be spudded before October 15. It will be drilled with rotary to 5,100 ft., then carried deeper with cable tools, if production is not found above that depth. Several major companies hold large blocks in the general area of the wildcat.

SHEPARD & THOMAS, of Holdenville, Okla., have the contract to drill a shallow test northwest of that town, in Hughes County, for J. M. Corbett, eastern oil man, and associates. Location is in SW SE NE Section 35-8-8.

HELMERICH & PAYNE, Tulsa, drilling contractor on the Forest Development Corp.'s No. 1 Scott, deep exploratory wildcat in Reeves County, West Texas, is reported preparing to test a section of saturation from 5,180-92 ft. after tools have been recovered from the hole. The wildcat has found and tested several sections of possible production down to its present total depth of 5,192 ft. However, none yielded commercial production. Tubing has been moved to the wildcat and, although drilled as a tight operation, reports credit the test with having found its most likely section of production. Location is in Section 286, Block 13, H.& G.N. Survey, in the southeastern part of the county.

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California Field Report

By
L. P. STOCKMAN

Rio Bravo Field Extended ½ Mile by 3,200-bbl. Well

LOS ANGELES, Calif., Sept. 25.—The most important field development in California in the past week was the completion of No. 1 Burner of Superior Oil Co. in the Rio Bravo field of Kern County, flowing 3,200 bbl. of 39.1-gravity oil and 5,000,000 cu. ft. of gas per day through a 24/64-in. bean from the Rio Bravo zone at 11,415 ft. The oil sand was cored far higher on the structure than in any other well in the field. This high structural position indicates that the apex of the Rio Bravo anticline is farther northwest than heretofore believed, and completion of No. 1 Burner about ½ mile northwest of nearest production proves up from 1,000 to 2,000 additional acres as potentially productive, barring, of course, the existence of a faulted condition that might dominate structural conditions in the northwest end of the structure. Superior Oil Co. and Union Oil Co. will benefit to a large degree, due to extensive leases in the northwest end of the field, but if the field extends far enough several smaller operators may participate in future drilling operations.

It has been thought the apex of the Rio Bravo structure was located on the Kern County Land Co. lease of Union Oil Co. in Section 34-28-25, and the shifting of the structural high about 3,500 ft. northwest is important. No. 1 Burner cored top of the Rio Bravo sand at 11,167 ft. and as the bit was still in the pay when drilling operations were concluded at 11,415 ft. the well has a penetration of 248 ft. in the zone and an undetermined additional amount below the completion depth. The prolific Rio Bravo sand contains a large percentage of oil sand, and in view of its excellent porosity it is evident that No. 1 Burner is capable of greatly exceeding its initial flow. The well was drilled from spud to completion at 11,415 ft. including the landing of pipe in 46 days. The hole contains 13⅜-in. surface casing at 1,515 ft. and a 7⅝-in. water string landed at 11,166 ft. It was finished with 277 ft. of 5¾-in. liner landed at 11,413 ft. and perforated at 11,156-413 ft. and 10,506 ft. of 2½-in. tubing.

Previous to completion of No. 1 Burner, the Rio Bravo field contained 1,200 acres of proved oil land on which 33 wells had been completed. Of these Superior Oil Co. owned 13, Union Oil Co. 9, General Petroleum Corp. 8, and George F. Getty, Inc., 3. General Petroleum Corp. and Superior Oil Co. are in the best position due to fee-owned acreage and the holding of leases from private individuals on which the royalties are substantially lower than those contained in leases of Kern County Land Co. Up to the close of August 1939 the Rio Bravo field has produced 3,990,157 bbl. of crude oil under strict curtailment. No unusual drilling problems have been encountered, and drilling costs are relatively low. The pipe record of No. 1 Burner is the generally accepted casing program adopted by operators throughout the field. The development program contemplates the drilling of not more than one well to each 20 acres with locations staggered at regular intervals in conformity with this program. The Rio Bravo field had been assigned an estimated ultimate production of 100,000,000 bbl. of crude oil before completion of No. 1 Burner. Completion of this well adds a minimum of 25,000,000 bbl. to the total normal expectancy and additional drilling may greatly increase ultimate production.

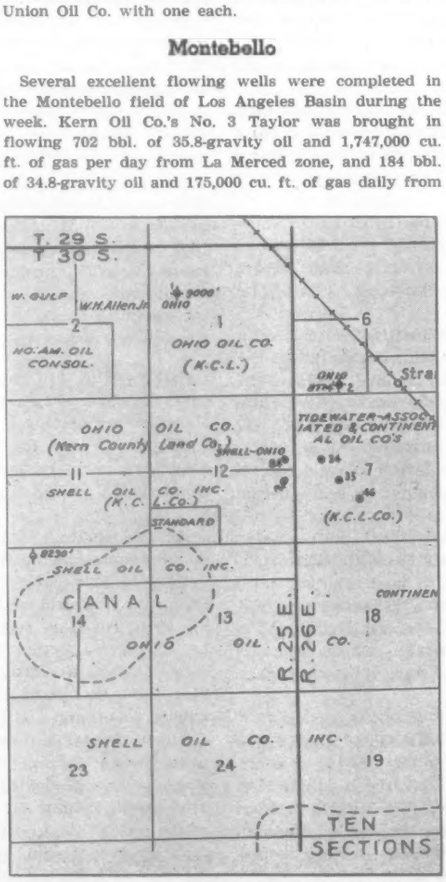
Tupman—Cole's Levee

Standard Oil Co. extended the northern limits of production in the Tupman field of Kern County early this week by completing No. 21-1 Kern County Land in Section 19-30-25 pumping 140 bbl. of 30.5-gravity oil, but in doing so has probably defined the outer limits of commercial production. This well showed a cut of 0.5 per cent, which indicates that production is free of edgewater, but the relatively small quantity produced indicates a decided lack of gas pressure and a probability that the well is located close to the edge of the field. No. 21-1 Kern County Land was carried down to 9,977 ft. but was later plugged back to 9,880 ft. and finished with a 7-in. water string landed at 9,170 ft. and 752 ft. of 4¾-in. liner which was cemented through perforations at 9,462 ft. and perforated at 9,462-9,880 ft. Top of the productive Stevens sand was cored at 9,477 ft. and top of the gray sand was logged at 9,951 ft. This outpost lacks just enough gas to result in a fair natural flow and based on results to date pumping equipment has not stimulated production to any degree. It is possible therefore that the new well may be put on a gas lift with beneficial results.

Several wells are being started in the Cole's Levee field of Kern County and location has been staked for two more. New wells either just begun or in the derrick stage include No. 58-29-A Western and No. 78-4-1-B Kern County Land of Richfield Oil Corp. as well as No. 76-4-1-B Kern County Land of the same company, a recent spud, and Nos. 65 and 72 Kern County Land of Tide Water Associated Oil Co. Standard Oil Co. and Richfield Oil Corp., head the drilling list in the Cole's Levee-Tupman area with three wells, each making hole followed by Ohio Oil Co. with two strings of tools in operation and by Tide Water Associated Oil Co. and Union Oil Co. with one each.

Montebello

Several excellent flowing wells were completed in the Montebello field of Los Angeles Basin during the week. Kern Oil Co.'s No. 3 Taylor was brought in flowing 702 bbl. of 35.8-gravity oil and 1,747,000 cu. ft. of gas per day from La Merced zone, and 184 bbl. of 34.8-gravity oil and 175,000 cu. ft. of gas daily from the Masser zone. Bottom of the hole is at 7,669 ft. The 7-in. casing was perforated opposite the Masser zone at 6,150-6,255 ft. and the 5-in. was perforated at 7,569-7,669 ft. The well was completed flowing through open lines from both the Masser and La Merced zones. No. 32 Monterey of Kern Oil Co. was brought in flowing 255 bbl. of 32.9-gravity oil, cutting 13 per cent, along with 150,000 cu. ft. of gas per day from the Masser zone with bottom of the hole at 6,770 ft. The Masser zone is being produced in these and other similar wells because this zone is rather well depleted and consequently has a low gas-oil ratio. This permits operators to produce the maximum allowable production of crude oil.



Three wells have been completed in the Strand field discovered a few months ago by Tide Water Associated Oil Co. in Kern County about 1 mile northeast of the Canal field, California

No. 32 Monterey was bottomed at 6,770 ft. and finished with a string of 8⅝-in. casing cemented at 6,695 ft. and subsequently gun-perforated at 6,150-6,280 ft. and 6,380-6,480 ft. and 103 ft. of 5-in. liner landed on bottom and perforated at 6,695-6,770 ft. After 6,514 ft. of 2½-in. tubing had been run in and connections made the well was swabbed in through open line. No. 1 Cowan of the Crail Brothers Oil Co. was completed flowing 1,160 bbl. of relatively clean 36.6-gravity oil along with 2,340,000 cu. ft. of gas per day from La Merced zone with bottom of the hole at 7,635 ft. Ring Oil Co. completed a good well when No. 1 Paden, south of Beverly Boulevard, was brought in flowing 640 bbl. of 37.1-gravity oil cutting 3 per cent and 2,000,000 cu. ft. of gas per day from La Merced zone at 7,635 ft.

Mission Oil Corp. completed No. 1 Marcotte, south of Beverly Boulevard, flowing 1,145 bbl. of 36.2-gravity oil cutting 2 per cent from a depth of 7,670 ft. along with 1,600,000 cu. ft. of gas per day. The initial flow was through a 1-in. bean and showed a low flow pressure of 100 lb. There has been a marked broadening out in the scope of work under way in the Montebello field although all wells now drilling are headed down to La Merced zone as the upper and intermediate horizons are in a rather badly depleted condition. In a few selected locations, however, it is possible to produce the top maximum allowable of 230 bbl. per day from the Masser zone and still keep within the injunction governing gas output. Bush Oil Co. has completed the No. 2 Olds in the Montebello field in the area north of Beverly Boulevard but in the west end of the structure flowing 970 bbl. of clean 35.9-gravity oil and 4,230,000 cu. ft. of gas per day from La Merced zone at 7,670 ft. This new well was finished with a 7-in. water string cemented at 7,565 ft. and subsequently gun-perforated at 7,414-15 ft. opposite the gas cap in La Merced zone and a 5½-in. liner including 110 ft. of perforated opposite the oil zone.

Wilmington

In the Wilmington field of Los Angeles Basin Union Pacific Railroad Co. completed Nos. 114, 115, and 116, which showed initials of 330 bbl., 720 bbl., and 280 bbl. per day, respectively. No. 115 was finished at 3,833 ft. in the Terminal zone whereas No. 114 was carried down to 3,945 ft., and plugged back to 3,736 ft. just prior to completion. No. 116 of Union Pacific Railroad Co. in the Wilmington field was completed at 4,068 ft.

Long Beach Oil Development Co., organized to develop submerged tidelands for the city of Long Beach on a royalty and operating basis, completed No. 6-Z, a tideland well flowing 518 bbl. of 18.4-gravity oil cutting 2 per cent from the Ranger zone with bottom of the hole at 2,852 ft. In the older section of the Wilmington field, Interstate Investment Co. completed No. 1 Harbor flowing 109 bbl. of 15.1-gravity oil cutting 2 per cent through a 28/64-in. bean from the Ranger zone at 3,210 ft. The Brookline Oil Co. completed its second well on the Harbor lease acquired from the Long Beach Harvor Department when No. 5

was brought in flowing 470 bbl. of 14.3-gravity oil cutting 4 per cent through a 1-in. bean from 3,735 ft.

Coalinga

R. S. Lytle, who is developing extensive acreage for Seaboard Oil Co., Honolulu Oil Co., and former stockholders of Petroleum Securities Co., completed another excellent well in the Southeast Coalinga field of Fresno County when No. 86-7-F in Section 7-20-16 was brought in flowing at the rate of 2,500 bbl. of clean 30.6-gravity oil and about 1,500,000 cu. ft. of gas per day from the Gatchell zone at 8,260 ft. It was carried down to 8,416 ft., but was plugged back to the completion depth before being turned into the tanks. No. 86-7-F, which cored top of the Glauconite at 7,744 ft., top of the grit zone at 7,761 ft. and top of the Gatchell oil sand at 7,768 ft. is producing from a total of 492 ft. of oil sand. This is a high penetration in any oil field but is especially so in the case of Southeast Coalinga due to high saturation of the sand and excellent porosity and permeability. The water shutoff was made with 9⅝-in. casing cemented at 7,742 ft. The initial production assigned this well is purely an arbitrary figure, inasmuch as the well was not permitted to establish a potential, and is capable of greatly exceeding the prescribed initial. Due to the ability of wells in the Southeast Coalinga field, no wells are allowed to flow for any great length of time before being beaned back to the curtailment maximum which for the month of September has been placed at 230 bbl. per day. The properties being developed by Robert S. Lytle have been found highly productive to date and the limits of production have not yet been established to the southeast. Contours of the field based on top of the Gatchell zone indicate that the field will extend for a long distance to the southeast unless faulting occurs.

South of present production in the field E. A. Parkford is drilling ahead at 7,790 ft. in an outpost in Section 24-20-15. The bit was still in the Kreyenhagen at last reports and indications point to the probability that if any production is secured in the Gatchell zone it will be at a depth below that of any other well in the Southeast Coalinga field. Between the Southeast and Northeast Coalinga fields, Wilshire-Annex Oil Co. is drilling ahead at 7,700 ft. with the present outlook not any too bright. This well will determine whether the Northeast and Southeast Coalinga fields are separate accumulations or one large irregular field. In Section 19-19-16, south of the discovery well of Amerada Petroleum Corp. in the Northeast Coalinga field, Standard Oil Co. completed No. 73-19-B at 8,270 ft., but no gage has been taken. This well was finished with 414 ft. of 5-in. liner cemented through perforations at 8,140 ft. and including 125 ft. of 60-mesh screen landed at 8,267 ft. Complete log of No. 48-18 Webb of Bandini Petroleum Co., which was completed last week flowing 545 bbl. of clean 57.2-gravity oil per day from 8,093 ft., was made available this week and reveals a number of interesting conditions. Top of the Kreyenhagen was cored at 6,330 ft., top of the Glauconitic at 7,498 ft., top of the Domengine at 7,503 ft., base of the grit zone at 7,558 ft., top of the productive Gatchell zone at 7,986 ft., base of the Gatchell zone at 8,061 ft., and top the siltstone at the base of the Gatchell zone at 8,061 ft.

San Joaquin Basin

In the Goose Lake district of Kern County Union Oil Co.'s No. 1 Bowerbank in Section 23-29-24 made 8,180 ft. of hole in 15 days. The Stevens zone is not expected to be found above 10,000 ft. Only 1,526 ft. of 13⅜-in. surface pipe has been landed. Amerada Petroleum Corp., after having drilled several relatively shallow wildcats in the Blackwell's Corner section of Kern County, has apparently not lost faith in the area despite the fact that only a small amount of oil has been pumped in one well. This week Texas Co. erected a new rig for No. 1 Beer located in Section 6-26-19 as a joint test with Amerada and spud should be made within the next 10 days. In the Fruitvale field of Kern County, Meridian Petroleum Corp. found the oil sand at 7,565 ft. contained salt water, and officials of the company are entertaining the thought of drilling ahead to take a look at the Eocene. The oil sand found in the Vedder at 7,500-65 ft. looked very good on a formation test but carried salt water. On a 45-minute test the well showed a steady blow of gas but in place of producing oil the hole filled up with salt water. This well will not necessarily preclude the development of Vedder zone production at a later date in other parts of the field.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	September 16		September 9			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	641,059	70,487
Fuel oil	.....	.....	142,208	20,315	1,612,448	.....
Diesel and gas oil	.....	.....	.....	.....	163,501	.....
Gasoline	.....	.....	.....	.....	2,432,126	2,437,678
Kerosene	.....	.....	.....	.....	194,850	257,005
Foreign exports—						
Crude oil	351,568	50,224	140,287	20,041	11,152,015	16,552,266
Fuel oil	46,995	6,714	117,313	16,759	6,286,088	6,325,804
Diesel and gas oil	91,160	13,023	278,323	39,760	5,384,446	4,658,810
Gasoline	10,617	1,517	45,875	6,554	5,393,109	5,815,696
Kerosene	6,842	977	37,874	5,411	1,295,701	687,555
Lubricants	3,571	510	.....	.....	89,743	144,353
Coastwise-domestic—						
Crude oil	271,085	38,726	260,587	37,227	9,262,891	8,790,680
Fuel oil	216,136	30,877	376,103	53,729	7,290,051	8,159,168
Diesel and gas oil	37,311	5,330	46,605	6,658	1,638,370	1,131,165
Gasoline	313,585	44,798	292,086	41,727	11,573,925	10,715,379
Kerosene	5,286	755	4,870	696	321,555	175,508

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	124,055	.....
Diesel and gas oil	.....	.....	.....	.....	69,550	196,644
Gasoline	.....	.....	.....	.....	.....	25,409
Kerosene	.....	.....	.....	.....	68,954	16,124
Asphalt	.....	.....	.....	.....	425,845	490,039
Lubricants	.....	.....	.....	.....	19,534	16,905
Foreign exports—						
Crude oil	81,171	11,596	.....	.....	3,885,885	4,381,530
Fuel oil	25,967	3,710	.....	.....	2,066,922	1,940,899
Diesel and gas oil	30,273	4,325	.....	.....	2,067,878	2,765,059
Gasoline	187,053	26,722	.....	.....	2,305,598	4,340,663
Kerosene	12,465	1,781	.....	.....	397,269	667,954
Asphalt	.....	.....	.....	.....	6,919	56,258
Lubricants	11,941	1,706	.....	.....	438,773	359,430
Other finished oil	.....	.....	.....	.....	469	.....
Coastwise-domestic—						
Fuel oil	110,962	15,852	212,488	30,355	4,779,974	4,331,254
Diesel and gas oil	14,780	2,111	52,911	7,559	918,642	1,075,849
Gasoline	202,474	28,925	263,145	37,592	5,991,268	5,717,977
Kerosene	18,914	2,702	33,276	4,754	640,853	385,028

Wheeler Ridge

In the Wheeler Ridge district of Kern County in the San Joaquin Valley Richfield Oil Corp. is about ready to abandon No. 1 K.C.L. as a duster at 11,168 ft. following an exhaustive test to develop commercial production at several points in the hole without success. Two other deep tests in San Joaquin Valley areas were still going ahead at last reports but have had little showings of importance. In the San Emidio district, in the extreme southern end of San Joaquin Basin in Kern County, Shell Oil Co., Inc. is going ahead in No. 52-13-2-A Kern County Land in Section 13-11-22, at 11,044 ft., in a hard shale of the Etchegoin. No showings have been found to date.

In the Bellevue district of Kern County Continental Oil Co. is coring for the Vedder zone at 10,260 ft. At the west end of Buena Vista Lake, Richfield Oil Corp. is resuming drilling operations in No. 81-36 B.V.A. in Section 36-31-25 following an unsuccessful formation test of a gas sand found between 5,050 ft. and 5,255 ft., but will undoubtedly test this zone on the way out if no oil production is found in the Stevens zone. This well is being drilled from a trestle on the east side of Buena Vista Lake and west of Western Gulf's discovery well in the Paloma field.

Los Angeles Basin

Island View Oil Co., in the 5-points section of the Huntington Beach field of Orange County, completed No. 1 Day, flowing 230 bbl. of clean 17.6-gravity oil daily from 4,327 ft. after the hole had been finished with a 7-in. water string cemented at 4,220 ft. and 97 ft. of 5¾-in. liner landed on bottom and perforated at 4,229-77 ft. After coring 40 ft. of good looking oil sand, the bit in No. 1 Del Rey of Vulcan Oil Co. went into a gray water-sand and plans call for an early abandonment. This wildcat, in Section 22-2-15 east of the Playa Del Rey field, logged top of the oil sand at 7,303 ft. There is no explanation for the failure of subsurface conditions in this section to conform more closely with the log of a wildcat drilled by Eastern Oil Co. about 2 years ago as the hole down to the top of the oil sand was running about 100 ft. higher structurally. Abandonment of this wildcat may result in the quitclaiming of several large leases and remove the immediate area from the realm of potentially productive acreage.

The southern end of the Rosecrans field does not look any too good at present due to abandonment of No. 3 Averill by King & Weymouth as a dry hole at 7,846 ft. and the failure of No. 1 Darling Community of Barnsdall Oil Co. and Wilshire Oil Co. to flow crude oil on a formation test at 7,755-8,027 ft. This well was accordingly deepened to 8,518 ft. and plans are under way to make another bid for production.

Illinois Fields

(Continued from Page 65)

NW¼ Section 21-6n-4w, dry and abandoned at 1,842 ft. It had a 3-bbl. showing but a lot of sulfur water. Jarvis Brothers' No. 1 Zebb, NE NW SE Section 21-5n-3w, location.

In Marion County Ed Hollmans' No. 1 Bedwell, NE NW NW Section 5-2n-2e, drilling at 2,350 ft. in McClosky lime.

In Jefferson County S. W. McGee's No. 1 Holloway, NW NW NE Section 10-1s-1e, rigging up standard tools.

Interesting Outposts

In White County Penn Illinois Oil Co.'s No. 1 Pyle, SE SE NE Section 12-6s-8e, Fredonia lime topped at 2,999 ft., well flowed 77 bbl. of oil in 2½ hours from pay streaks from 3,082 to 3,116 ft. Seven-inch casing was set at 3,055 ft. The well is shut in until storage is provided. Sun Oil Co.'s No. 1 Garner, SW SE SW Section 1-5s-10e, was cleaning out and testing. Continental Oil Co.'s No. 1 Hanna, SE SE NW Section 28-5s-10e, drilling at 1,470 ft. Chisom's No. 1 Boultinghouse, CWL W½ SW SW Section 10-4s-14w, Bethel sand at 2,753 ft., total depth 2,769 ft., shot with 50 qt. at 2,753-65 ft., casing collapsed at 2,720 ft., swaging casing. McIntyre & Johnson's No. 1 Hon, NE NW SE Section 9-4s-14w of second principal meridian, waiting for standard tools at a total depth of 3,003 ft. J. W. Carter and others' No. 1 Johnson, NE SW NE Section 12-4s-10e, casing perforated with 24 holes at 3,109-13 ft., in Roseclaire lime, filled up 550 ft. with oil in 1 hour; shut in until tankage is provided. Kingwood Oil Co.'s No. 1 Schnuck, SE NE NE Section 2-4s-6e, Fredonia lime topped at 3,403 ft., coring at 3,478 ft., no showing of oil. Pace & German's No. 1 Hon, SW SW SW Section 33-3s-14w of second principal meridian, drilling at 1,510 ft. Roche, Voyles and others' No. 1 Lewis, NE NE NE Section 31-3s-8e, drilling at 3,015 ft. Riley & Lacey's No. 1 Danby, SE SW NE Section 31-3s-8e, total depth 3,260 ft., set 7-in. casing at 3,208 ft. T. F. Morrow's No. 1 Gray, NE NE SE Section 30-3s-8e, drilling at 2,065 ft. Angelo Cherikos' No. 1 McIntosh, SW NE NW Section 31-3s-8e. Southern Illinois Petroleum Co.'s No. 2 Phillip Walker B, SE SW SW Section 9-3s-9e, pay at 3,380-92 ft., total depth 3,406 ft., set 5½-in. casing at 3,380 ft.

In Edwards County Waggener & Schreiber's No. 1 Seigerts, SE NW SW Section 34-2s-14w, was drilling at 2,150 ft. Olin & Hayes' No. 1 N.Y.C.R.R. B, Cypress sand at 2,628 ft., total depth 2,634 ft., set 5½-in. casing at 2,626 ft. C. G. McFadden's No. 1 Bump, NE SE SW Section 34-2s-14w, shut down for orders at 2,642 ft. Longhorn Oil Co.'s No. 1 Mary Kraft, SW NW SW Section 31-2s-14w, set 5½-in. casing at 3,175 ft., total depth. Magnolia Petroleum Co.'s No. 1 Etheridge, SW NW SW Section 18-3s-14w of second principal meridian, total depth 3,190 ft., plugged back to 3,140 ft., shot with 50 qt. at 3,125-36 ft., testing. Kingwood Oil Co.'s No. 1 Helm, NE NE NW Section 18-3s-14w of second principal meridian, set 5½-in. casing at 3,181 ft., perforated it with 36 holes at 3,130-38 ft., swabbed 44 bbl. of oil in 21 hours, treated with 2,000 gal. of acid, it swabbed 10 bbl. of oil per hour.

North Louisiana, Arkansas

By
GEORGE WEBER

Wildcats Show Promise in All Three States in Area

SHREVEPORT, La., Sept. 25.—Attention of tri-state operators was centered on the Elm Grove field of Bossier Parish as Gulf Refining Co.'s No. 20 Hodges, a deep well, was being prepared for a test after encountering high-pressure gas in the lower Glen Rose. Other important wildcats and deep tests progressed, with a good show of gas and some oil in a Ouachita County, Arkansas, wildcat near Smackover, and a show of production in an outpost to a recent Panola County, Texas, gas-distillate field.

Elm Grove Test

The deep test in the Elm Grove shallow oil pool of Bossier and Caddo parishes, North Louisiana, is showing good possibilities. This is Gulf Refining Co.'s No. 20 C. B. Hodges, 3,131 ft. north and 1,388 ft. west of the SE cor. Section 24-16-12, which was shut in to prevent a blowout in the lower Glen Rose lime. Massive anhydrite was topped at 4,107 ft., and the base was drilled at 4,263 ft., with the base of the stringer anhydrite at 4,363 ft. Operators ran an electrical survey to 4,370 ft. and cored ahead. At 4,411-23 ft. a soft oolitic lime with a gas and distillate odor was cored. Preparing to test the showing, operators were making up the testing tool, when the well started to flow wash water and mud. Two joints of drill stem with a check valve were lowered into the hole and the blowout preventers closed. Operators were mixing mud to control the well for a test early this week. Elevation of the test is 162 ft.

On the same structure, to the southeast in Caddo Parish, the Prairie River Syndicate's No. 2-B Hutchison was shut down at the week end after reaching contract depth at 6,010 ft. The Travis Peak formation was topped in this southwest flank test at 5,740 ft.

A good gas-condensate well was completed in the Bisteneau field of Bienville Parish, as the Arkansas-Louisiana Gas Co. brought in No. 1 Gayoso, a deepened abandonment, for an initial gage of over 56,000,000 cu. ft. of gas daily. A small gasser was also brought in in the Homer field of Bossier Parish.

Franklin Parish Wildcat

Failure met with wildcat operations in Franklin Parish this week when the Continental Oil Co.'s No. 1 Sherrouse in Section 22-13n-8e, topped rock salt at 1,778 ft. and was abandoned, after going 61 ft. into the salt. The test had a gas blowout in a limey sand at 1,203 ft., but "went dead." Casing was set at 1,225 ft., and the well tested dry at 1,252 ft. with a small showing of gas. Further operations on this interior salt dome are expected.

Arkansas Developments

A good show of gas together with some oil attracted attention to a wildcat in Ouachita County, Arkansas. A. B. Turner and others' No. 1 Cook estate, C NW SW Section 27-15-18, between the McDonald and Stephens pools, cored as follows: 1,603-08 ft. recovering 4 ft. 6 in. of soft sandy shale; 1,608-13 ft. recovering 3 ft. of gray sandy shale; 1,613-16 ft. recovering 1 ft. of hard limey shale and 2 ft. of saturated sand. A drill-stem test at 1,588-1,613 ft. with ½-in. chokes top and bottom showed a dry gas flow for 2½ minutes at the rate of 25,000,000 cu. ft. daily. Rock pressure stood at 500 lb. and bottom-hole pressure at 600 lb. A further core at 1,616-18 ft. was taken with no recovery. On a second drill-stem test, at 1,614-18 ft., in 10 minutes recovery amounted to 500 ft. of 17-gravity oil and 200 ft. of salt water. The test is shut down awaiting orders at 1,618 ft.

In the old McDonald pool, Lion Oil Refining Co.'s No. 1 Annie continues to swab salt water through 2½-in. tubing, with total depth at 5,666 ft.

An important wildcat was staked in Union County. Delta Drilling Co. and others will drill No. 1 Grace, C SE SE Section 31-12-14, east of El Dorado in Union County, on a Fohs Oil Co. block.

In Columbia County, as drilling subsides in the Magnolia pool, the Experiment field is watched as the possible next center of drilling activity. This week the first offset well to the discovery, Lion Oil Refining Co.'s No. 1 Warnock estate, C NW NW Section 15-18-22, is getting under way. Other rotaries are expected to move into the field shortly.

Panola County Gas

The new Carthage gas-condensate field of Panola County, eastern border of Texas, is apparently extended with Turner & Smith's No. 1 Panola Development Co. running casing with a show of gas and condensate at total depth of 5,050 ft. The well is 6,000 ft. northwest of the discovery well of the field, No. 1 Bird, and is the second in a series of five tests which the operators plan to drill prior to installing a recycling plant.

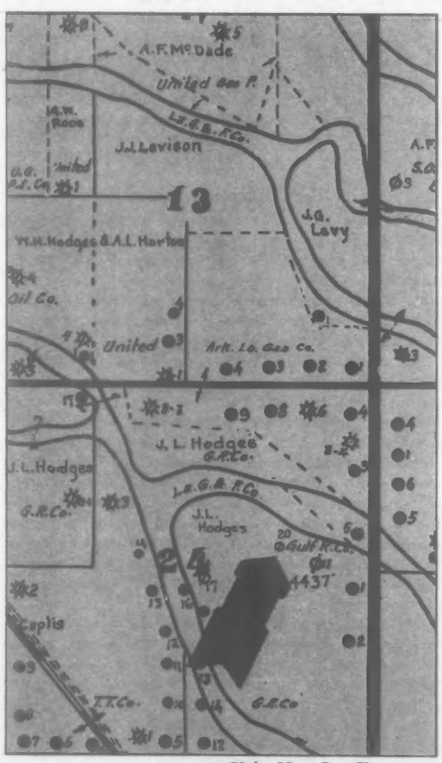
NORTH LOUISIANA COMPLETIONS

Bisteneau—Bienville Parish

Arkansas-Louisiana Gas Co.'s No. 1 Gayoso, 1,880 ft. N, 660 ft. E of SW cor. Section 14-16-10, old total depth 2,613 ft., recompleted, initial production 56,740,000 cu. ft. of gas, rock pressure 2,140 lb., total depth 5,235 ft.

Homer—Bossier Parish

Premier Investment Co.'s No. 6-B Kendrick, 1,714 ft. E, 1,347 ft. N of SW cor. Section 22-19-11, 5,000,000 cu. ft. of gas, open flow, plugged back from 1,772 ft. to 1,740 ft.



Globe Map Co., Shreveport

Gulf Refining Co.'s No. 20 Hodges, a deep test in the old shallow Elm Grove field of Bossier Parish, found high-pressure gas in the oolitic lime of the lower Glen Rose at 4,423 ft.

Caddo—Caddo Parish

Homer Ferguson's No. 1 Pala, 645 ft. E, 65 ft. N of C Section 1-20-16, 25 bbl., 6⅝-in. casing at 1,342 ft., total depth 1,606 ft., acidized with 3,000 gal. A. H. Neighbors' No. 1 W. C. Agurs, 660 ft. N, 990 ft. E of SW cor. SE Section 2-20-16, salt water and abandoned, total depth 1,605 ft. Oblinger & Ritter's No. 3 Boisseau, 1,220 ft. N, 1,310 ft. E of SW cor. SE Section 34-21-16, salt water and abandoned, total depth 971 ft. John Schmidt's No. 2 Sproull, 970 ft. N, 570 ft. W of SE cor. Section 32-20-16, salt water and abandoned, total depth 1,654 ft.

Wildcat—Franklin Parish

Continental Oil Co.'s No. 1 Sherrouse, 330 ft. N, 660 ft. W of SE cor. NE SE Section 22-13n-8e, dry and abandoned in rock salt, total depth 1,839 ft.

Munroe—Morehouse Parish

Southern Carbon Co.'s No. 25 Tensas, Section 34-22-4e, 2,000,000 cu. ft. of gas, rock pressure 790 lb., total depth 2,195 ft.

Zwolle—Sabine Parish

M. C. M. Drilling Co.'s No. 1 Sepulvedo, 216 ft. N, 315 ft. E of SW cor. SE NE Section 4-7-13, dry and abandoned 2,494 ft.

Production by Pool

Estimated daily gross production of all companies, week ending September 23:

NORTH LOUISIANA

	Bbl.
Bellevue	470
Caddo light	4,660
Caddo heavy	2,520
Converse	505
Cotton Valley light	*10,050
Cross Lake	4,225
De Soto and Red River	1,115
Elm Grove	325
Haynesville	2,795
Holly	85
Homer	2,775
Lisbon	4,790
Pleasant Hill	80
Rodessa	23,815
Sarepta-Carterville	†295
Sligo	1,305
Sugar Creek	275
Urania	2,575
Zwolle	2,750
Total North Louisiana	65,410

SOUTH ARKANSAS

Atlanta	530
Buckner	2,270
Champagnolle	1,500
El Dorado	1,645
Experiment	200
Lewisville	875
Lisbon	245
Magnolia	15,895
Miller County	250
Nevada	575
Rodessa	2,915
Schuler	18,130
Smackover light	1,900
Smackover heavy	14,550
Stephens	520
Troy	1,210
Urbana	1,025
Village	950
Total South Arkansas	65,185

Texas side of Rodessa field 27,645.

*2,785 bbl. is distillate. †60 bbl. is distillate.

Cotton Valley—Webster Parish

George B. Barham's No. 1 Merritt, 596 ft. N, 736 ft. E of SW cor. Section 14-21-10, 42 bbl., ¾-in. choke, tub-

(Continued on Page 91)

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Eastern Field Report

By STAFF CORRESPONDENT

Well in Medina County, Ohio, Best Completion of the Week

PITTSBURGH, Pa., Sept. 25.—During the week 25 operations were reported from the lower eastern fields, of which 3 were dry, 15 gas wells, and 7 producers with a daily initial of 256 bbl., most of which was from a fair well in West Virginia and a shallow one in Southeast Ohio.

SOUTHEAST OHIO

The best producer in Southeast Ohio was No. 33 Bertha B. and J. J. Parent in Lot 5, Chatham Township, Medina County, completed by Preston Oil Co. in the Berea grit at 409 ft. It produced 56 bbl. the first day after shot.

In Athens County Ross, Weimer & Ross drilled No. 6 G. P. Ackley at Pratt's Fork in Section 15, Lodi Township, through the Mitchell sand to 520 ft. It was dry.

In Hocking County Ohio Fuel Gas Co. completed No. 6641 Sunday Creek Coal Co., SW¼ Section 17, Ward Township, in the Injun sand at 438 ft., gaging 205,000 cu. ft.

In Licking County C. A. Peavy drilled on the Smith heirs farm in Section 17, Mary Ann Township, through the Berea sand to 596 ft. and it was dry. In Section 5, Madison Township, J. T. Bebout completed a second test on the O. V. Holtz farm in the Clinton sand at 2,594 ft., good for 770,000 cu. ft.

In Monroe County Gold Crown Oil & Gas Co. completed a second test on the Julia Ann Shrickling farm in the Keener sand at 1,325 ft., producing 2 bbl. the first day before shot. It is in Section 30, Franklin Township.

In Muskingum County Gas Producing Co. of Ohio completed a test on the Lewis H. Luman farm, SW¼ Section 7, Harris Township, in the Medina sand at 4,325 ft., good for 15 bbl. a day after shot.

SOUTHWEST PENNSYLVANIA

Three gas wells were completed in Southwest Pennsylvania. In Armstrong County Peoples Natural Gas Co. completed No. 1 N. F. Altman in Cowanshannock Township, at 3,354 ft. with the Bradford sand at 3,207-75 ft. and about 35,000 cu. ft. a day at 3,260-75 ft. In this township this company is cleaning out No. 1 Jacob Wagner at 3,444 ft. after shot; has rig on the William Small farm, and is moving in rig on the France Harkleroad farm. Equitable Gas Co. is running casing at 994 ft. in the D. W. Raraigh test. L. F. Watson and others are drilling at 2,600 ft. on the Belle Boyer farm. Apollo Gas Co. has a location on the Hulda M. Bleakley farm.

In Plum Creek Township Apollo Gas Co. is drilling up a shoe lost at 3,470 ft. in the Edgar Harkleroad test. In Kiskiminetas Township it is drilling at 260 ft. on the J. P. Wilson heirs test. Peoples Natural Gas Co. is down 3,808 ft. in the J. M. Dunmire test.

In Boggs Township, John Wray & Co. are drilling at 605 ft. in the William Mateer test and completing rig on the Walter Upperman farm. In Manor Township these operators are drilling at 3,065 ft. on the Dora E. Myers test. In Gilpin Township Pleasant Valley Gas Co. is deepening the J. J. Klingensmith at 3,133 ft.

Fayette-Greene

In Fayette County Wahler-Power Oil & Gas Co. completed the test on the S. H. Powers farm in Menallen Township at 1,353 ft. with Big Injun sand at 1,120-1,350 ft. and 40,000 cu. ft. of gas at 1,263 ft. In this township J. H. Carnell is drilling at 175 ft. on the Mike Uhrin farm. In Nicholson Township Duquesne Gas Co. is drilling at 1,025 ft. in No. 2 Andrew Demaske.

In Center Township, Greene County, Morgan Henderson, agent, is drilling at 2,360 ft. in No. 4 J. L. Metz. Equitable Gas Co. is drilling at 2,935 ft. deepening No. 1 Eli Orndoff. In Perry Township North Eastern Oil & Gas Co. is drilling at 3,130 ft. deepening No. 3 N. S. Fetty.

In Richhill Township, Greene County, A. L. Phillips has reached 2,857 ft. on the E. Sheppard farm. In Greene Township, Brummage and others are drilling at 2,030 ft. in the H. Durr test and Fred Garrison at 640 ft. in the Henderson Coal Co. test.

Clarion-Indiana

In Limestone Township, Clarion County, Kimmel Gas Co. completed the test on the J. P. C. King farm at 2,444 ft. with the Thirty-foot sand at 872-905 ft. and 50,000 cu. ft. final gage at 883 ft. Squirrel Hill Gas Co. is drilling at 1,482 ft. in the N. A. Sloan second test.

In Porter Township Owens Illinois Glass Co. is building a rig on the Walter Bowersox farm. In Clarion Township Burnham Gas Co. is drilling at 750 ft. on the Charlotte Slater test.

In West Mahoning Township, Indiana County, R. C. Galbreath & Co. are drilling at 1,050 ft. in the Thomas Steffey test. In White Township T. W. Phillips Gas & Oil Co. is drilling at 3,142 ft. on No. 1 Indiana Real Estate & Trust Co. and at 2,025 ft. on the Joseph Mack test.

Washington County

In Morris Township, Washington County, Union Gasoline & Oil Corp. drilled No. 819 J. R. Andrews through the Fifth sand to 3,030 ft. and it was dry. This company is drilling at 1,435 ft. in No. 821 J. R. Andrews.

Deep Tests

In Armstrong County Peoples Natural Gas Co. is drilling at 6,699 ft. in the deep test on the Lowry Martin farm on the Greendale anticline in Wayne Township, or 165 ft. in the Onondaga lime. The Oriskany sand is expected with each run.

In Butler County South Penn Oil Co. topped the Tully lime at 5,084 ft. on the M. A. Fowler heirs in Concord Township and is drilling at 5,220 ft. Two sharp gas pockets were struck which exhausted in a short time.

On Chestnut Ridge in Fayette County New Penn Development Co., William E. Snee and others are drilling at 5,225 ft. on the Piedmont Coal Co. lease in North Union Township. In Maryland these operators have reached 200 ft. on the Humberson farm in Garrett Township.

WEST VIRGINIA

One fair gas well was completed in the local pool in Jefferson district, Pleasants County, West Virginia, where G. S. M. Powell Farm Oil Co. completed No. 3 D. P. Carder in the Squaw sand at 2,010 ft. When the sand was topped it made a flow over the derrick and it is good for 150 bbl. a day initially. Two previous wells on this lease were equally good.

Close by, First National Bank of St. Marys (Schulz Oil Co.) completed No. 5 T. C. Hammett in the same formation at 2,047 ft., rated at 25 bbl. a day.

In Roane County Rodgers Properties Co. completed the test on the Red Perot Coal Co. in Curtis district at 1,834 ft. with the Salt sand topped at 1,790 ft. and 5 bbl. at 1,806-26 ft. after a 40-qt. shot.

In Wood County Gorrell and Athey Oil Co. completed a test on the H. C. and N. M. Maidens farm in Williams district in the Salt sand at 1,320 ft., good for 3 bbl. after a heavy shot.

Gas Wells

In Cabell County United Fuel Gas Co. completed No. 4847 Ezra Adkins in McComas district at 3,162 ft. The total gage was 149,000 ft. 27 hours after shot.

In Calhoun County Southeastern Gas Co. completed the test on the Hilda Shock farm in Sherman district at 2,030 ft., with the Big Injun sand at 1,945-2,020 ft. and 17,000 cu. ft. before shot at 1,995-2,004 ft.

In Clay County Elk River Gas Co. completed No. 3 Thompson Land & Coal Co. in Pleasant district in the Big Injun sand at 2,303 ft., good for 280,000 ft.

In Doddridge County D. W. Gribble drilled on the County Infirmary Home in Central district to 2,850 ft. with the Gordon sand at 2,682-84 ft. and all formation void of any showing.

In Gilmer County McCall Drilling Co. completed the test on the Robert Napier farm in DeKalb district at 2,138 ft. with the Big Injun sand at 2,057-2,132 ft. The total was 300,000 ft. after shot.

In Lincoln County, Bradyville Gas Co. completed No. 1 Sweetland Land & Mineral Co., in Laurel Hill district, at 3,478 ft., with a total gage of 425,000 cu. ft. a day 27 hours after shot.

In Logan County West Virginia Gas Corp. deepened No. 19 Dingess Run Coal Co., in Logan district, starting at 3,074 ft., to 5,220 ft., with 420,000 cu. ft. a day 24 hours after shot.

In Ritchie County Oil & Gas Co. completed the test on the E. D. and Pearl Wilson farm in Union district at 2,000 ft. in the Squaw sand, gaging 50,000 ft.

Oriskany Gas Field

In the Oriskany gas field in Kanawha County United Fuel Gas Co. completed the test on the W. J. Glass and C. T. Tolley farm in Poca district in the Oriskany sand, total depth 4,845 ft., with a final gage of 10,358,000 ft. a day.

In this district Columbian Carbon Co. completed the test on the Celeste Parcell farm at 5,227 ft. with the Oriskany sand at 5,199-5,270 ft. and plugged back to 5,227 ft. and shot with a gage of 3,182,000 ft. a day.

Two new locations were made. In Union district, Godfrey L. Cabot, Inc., will drill on the Mansfield Jones farm, elevation 934 ft. In Louden district Columbian Carbon Co. has a location for No. 4 Campbells Creek Coal Co., elevation 984 ft.

In Poca district United Fuel Gas Co. shut down two wells, both having reached the Oriskany sand; the B. C. Gillespie and others test at 5,251 ft. with a showing of gas, and the A. A. Beane and others' test at 4,820 ft. This company is drilling at 4,826 ft in the E. U. Dawson test; at 4,013 ft. in the D. C. Ingram and others' test; 3,586 ft. in No. 4853 W. H. O'Dell, and 193 ft. in No. 4859 C. H. Sisson.

Columbian Carbon Co. has reached 3,721 ft. in the Tignor and Griffith test; 3,476 ft. in the A. H. Campbell test. Godfrey L. Cabot, Inc., is drilling at 1,756 ft. on the Poca Coal Land Co. test; United Carbon Co. at 1,590 ft. on the E. P. Higginbotham test; Brawley Reid Gas Co. at 5,219 ft. with the Corniferous lime topped at 5,113 ft. in No. 11 A. L. Campbell and 3,850 ft. in No. 12. Spartan Gas Co. is down 4,260 ft. in the J. S. and E. D. Newhouse test, and Glenn Oil & Gas Co. 2,350 ft. in the Laura Flowers test.

In Jackson County a continuation of the Kanawha County pool, Everett Starcher and others completed a test on the Rosa Boggess farm in Ripley district at 4,975 ft., with the Corniferous lime at 4,844 ft.; Oriskany topped at 4,942 ft., gas 4,958-71 ft., and a final gage of 7,332,000 cu. ft. a day after shot. This operator is drilling at 4,735 ft. on the Roy O. Pfost test, same district.

In Ravenswood district, Jackson County, Joe Rubin and others are drilling at 3,400 ft. in the Gilbert Starr test. In Ripley district Columbian Carbon Co. is down 2,835 ft. in the John H. Parsons test.

Texas and Louisiana Gulf

By NEIL WILLIAMS

Fort Bend County Discovery Starts As a Distillate Well

HOUSTON, Tex., Sept. 25.—Operators in the Gulf Coast district were watching developments in the Rosenberg area, Fort Bend County, following the completion of H. C. Cockburn and others' No. 1 Dezerzanowski which opened a new field, 2½ miles west of the town of Rosenberg. The hole is bottomed at 7,743 ft., and the well was completed through the drill stem, flowing an estimated 15 bbl. of 52-gravity distillate and 900,000 cu. ft. of gas daily through a ¼-in. choke.

The full significance of the strike cannot be determined at this time as the well was completed under adverse conditions and little information was obtained on the sand thickness of the producing formation. The well made its appearance as a pool opener the previous week when it attempted to blow out from a sand and sandy shale section showing gas and distillate at 7,726-43 ft. The attempted blowout caused the drill stem to stick at 7,725 ft., and due to excessive gas pressure the operators did not attempt to pull the drill stem, but cemented the pipe, and the well was tested after 1½-in. tubing was swung at 7,519 ft.

The well is in Section 8, H.&T.C. Survey, on a block of approximately 5,000 acres, in which close-in protection acreage is held by Houston Oil Co., Texas Gulf Producing Co., Republic Production Co., Magnolia Petroleum Co., Sun Oil Co. and Tide Water Associated Oil Co.

Wildcatting throughout the county has been exceptionally active since April, when Vicksburg production was opened on the north flank of the old Thompson field in the southeastern part of the county. Several new prospects are reported to have been found by geophysical work during the past few months, and old-known structures such as Long Point, Big Creek and several others are receiving new development. One of the newer prospects scheduled for early drilling is approximately 3 miles northeast of the above discovery, where Magnolia Petroleum Co. staked location for No. 1 G. R. Huntington in the Henry Scott Survey. Contract depth of the well is 7,500 ft.

Two failures were marked up for the Big Creek and Long Point structures. H. R. Cullen's No. 1 Booth, on the south flank of the Big Creek dome, was abandoned at 8,002 ft. The well topped the Vicksburg formation at 7,543-73 ft. At Long Point, Superior Oil Co. abandoned No. 1 Guy C. Kelso at a sidetracked depth of 5,488 ft.

In Brazoria County, approximately 3,000 ft. north of the discovery well of the Chocolate Bayou field, Glenn McCarthy staked location for No. 2 Houston Farm Development Co. in the center of Lots 8 and 9, Block 5, James Perry and E. Austin Survey No. 7. The discovery well of this field was completed several weeks ago, and while the actual producing depth is still unannounced, the well is reported to be flowing 32 bbl. of distillate per day under a working pressure of 1,600 lb.

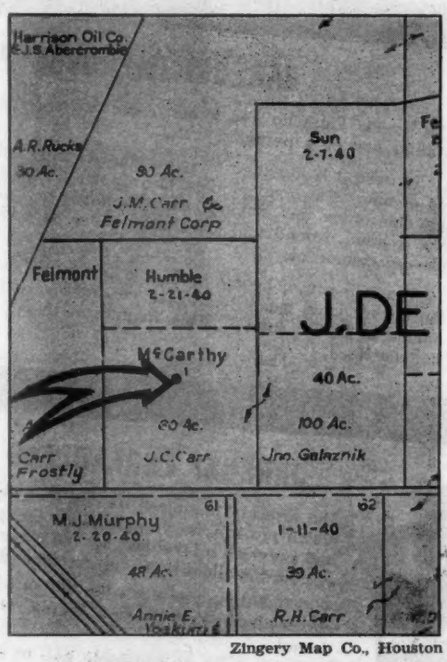
In the same county, in the Anchor area, Glenn McCarthy's No. 1 J. A. Carr is reported shut down at 10,540 ft. An electrical survey showed favorable indications at 9,985-90 ft., and 9,995-10,004 ft. Sand, which had a gas and distillate odor, was cored the past week at 10,353-84 ft., and casing is expected to be cemented for a production test.

The Capien field, Galveston County, was extended a short distance eastward with the completion of Sun Oil Co.'s No. 1 Zinn & Forman. Bottomed at 7,583 ft., the well was completed through perforated casing at 7,355-75 ft., flowing 454 bbl. per day through a ⅛-in. choke under a tubing pressure of 1,800 lb. The top of the sand section was at 7,354 ft. North of the field and located in East Bay, Sun Oil Co. is driving piling foundation for No. 1-176 State, an 8,000-ft. test. The well is being drilled on a farmout from the Texas Co.

In the Martha field, Stanolind Oil & Gas Co. is rigging up No. 1 Frank Charzan, approximately 2,000 ft. southwest of the company's No. 1 Seaberg in the I.&G.N. Survey No. 7.

The east extension area of the Turtle Bay field, Chambers County, was apparently extended to the south as Edwards Drilling Co. prepares to test No. 1 Sloan. Sand showing oil and gas was topped at 6,550 ft., and was cored to 6,564 ft. The hole is bottomed in sandy shale at 6,585 ft., and 5½-in. casing was cemented at 6,575 ft. The well is in the G. B. Jamison Survey, about 500 ft. southeast of Stanolind Oil & Gas Co. No. 1 Lotz.

In the southwest extension area of the Dickinson field, Galveston County, Pure Oil Co.'s No. 1 Wooten was completed for an initial production of 29 bbl. of distillate in 7 hours, flowing through a 11/64-in. choke, under a tubing pressure of 2,500 lb. The hole was drilled to 9,000 ft., and the well was completed through perforated casing at 8,596-8,601 ft. This is the second well drilled in the area and it is reported to have checked lower than No. 1 Kohfeldt, the discovery well.



Zingery Map Co., Houston

Anchor area, Brazoria County, showing location of Glenn H. McCarthy's No. 1 J. C. Carr, a prospective pool opener

Louisiana Coast

The recompletion of Mikton Oil Co.'s No. 2 Martinez as the discovery well of the La Fourche Crossing prospect, La Fourche Parish, and reports of an oil sand logged in a wildcat in Jefferson Parish featured developments on the Louisiana Coast.

Mikton Oil Co.'s No. 2 Martinez, midway between the Raceland and Chacahoula fields, La Fourche Parish, is reported to be flowing an estimated 13 bbl. of fluid per hour while cleaning out through various chokes under a tubing pressure of 1,700 lb. and casing pressure of 690 lb. Gravity of the oil tested 39.9°, and a shake-out test showed from zero to 10 per cent fresh water and emulsion. The well is producing through perforated casing at 10,128-31 ft. The area is expected to receive an active drilling campaign, as the well is offset to the north by small tracts which are held by several independent operators.

Several miles north of the Lafitte field, Jefferson Parish, California Co.'s No. 1 Adams Rutley, Section 2-16s-23e, is bottomed at 8,494 ft., and the company is drilling plug after having cemented a protection string of 9⅝-in. casing on bottom. The well is reported to have cored 10 ft. of oil sand at an unnamed depth. This is a "mystery" well and details of the core record are not being released.

Location for a deep wildcat was made in Jefferson Davis Parish by Housh & Thompson for No. 1 Lacassin Co., Inc., in Section 29-11s-5w, on what is known as the Hays prospect, about 7½ miles northeast of the Chalkley field in Cameron Parish.

The Bancroft field, Beauregard Parish, was extended about ½ mile southwest by Republic Production Co.'s No. 1 Whitman-Black, completed for an initial production of 312 bbl. daily, flowing through a ¼-in. choke. The sand was topped low, indicating that production is approaching the edge of the structure. The same company's No. 9 Lutcher-Moore is coring in sandy shale below 10,699 ft., with no shows reported. Unconfirmed reports state that a showing of oil and gas was logged in the Tertiary Wilcox at 10,305-20 ft.

In Orleans Parish, W. T. Burton's No. 1 L.&N.R.R., Section 18-11s-15e, reperforated casing at 10,138-44 ft., and is shut down waiting for orders after the well swabbed salt water, with a slight showing of oil.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Brazoria County

Hastings field: Stanolind Oil & Gas Co.'s No. 4 Ware, perforated casing at 6,036-78 ft., 473 bbl., ¼-in. choke. Stanolind Oil & Gas Co.'s No. 6 McDonald, perforated casing 6,100-08 ft., 228 bbl., ¼-in. choke. Manvel field: Texas Co.'s No. 21-A Belcher, perforated casing 5,390-97 ft., 39 bbl., various chokes. Old Ocean field: Sun Oil Co.'s No. 2 Campbell, perforated casing 10,415-42 ft., 181 bbl., 22 hours, various chokes.

Chambers County

Anahuac field: Humble Oil & Refining Co.'s No. 32 Johnson, sand 7,040-80 ft., 568 bbl., ¼-in. choke.

Fort Bend County

Thompson field: John Blaffer's No. 1 Davis, sand 5,350-5,400 ft., 360 bbl., ¼-in. choke. H. M. Naylor's No. 3 Shanks, sand 7,984-96 ft., ¼-in. choke.

Galveston County

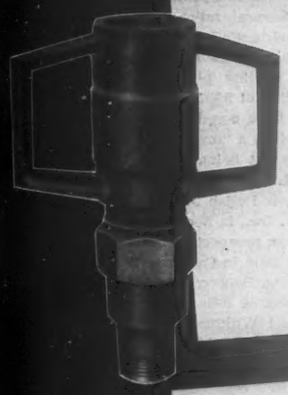
Capien field. Sun Oil Co.'s No. 1 Zinn & Forman, perforated casing 7,355-75 ft., 454 bbl., ⅛-in. choke. Dickinson field: Humble Oil & Refining Co.'s No. 6 Fream, 8,800 ft., gas well.

Harris County

Clear Lake field: Humble Oil & Refining Co.'s No. 13 Humble-West, sand 5,879-5,911 ft., 101 bbl., ¼-in. choke. Fairbanks field: Amerada-Stanolind Oil & Gas Co.'s No. 10 White, perforated casing 6,828-32 ft., 79 bbl., ¼-in. choke. Stanolind Oil & Gas Co.'s No. 7 Jahnke, sand 6,833-41 ft., 157 bbl., ¼-in. choke. Friendswood field: Humble Oil & Refining Co.'s No. 9 Herman Hospital, sand 6,000-48 ft., 454 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 38-B Humble-West, sand 6,041-60 ft., 519 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 1 Pendarvis, sand 6,409-54 ft., 408 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 7 West Production Co.,

(Continued on Page 97)

6 IMPROVEMENTS in



"ERIE" IMPROVED STUFFING BOX

Our Erie Improved Polished Rod Stuffing Box is constructed of heavy malleable iron, in only 4 parts. The two glands which constitute the wearing parts are easily replaced at low cost. Glands are 2½" long, offering large bearing area which increases life of both glands and rod and provides ample bearing area for loads imposed when rod is out of line. Glands are furnished of cast iron, solid babbitt, or babbitt-lined malleable iron.

6 standard ⅛" stuffing-box rubbers are used. As rubbers wear, head is screwed down until a thickness equal to only 2 rubbers remains.

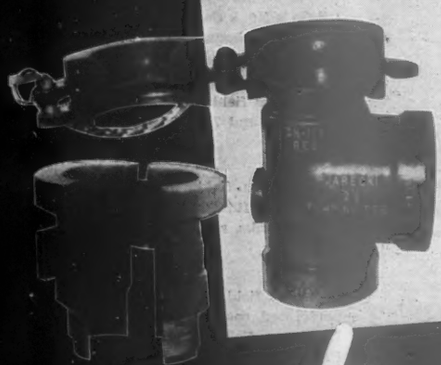
A large oil reservoir is provided at top, for lubricating rod when well pumps off. This box has ample strength to withstand the hardest service. Offered in 2", 2½" and 3" sizes.

JARECKI IMPROVED PUMPING TEE

The Jarecki Pumping Tee forms a connection between the tubing, flow or lead line, and stuffing box of a pumping well.

Because it is threaded to screw directly onto either regular or upset-thread tubing, this tee eliminates swaged nipples, sub-nipples and bushings. Flow or lead line screws directly into side of tee, and stuffing box or threaded bell nipple screws directly into top. Tee also has a band around top, for attaching hinged bell nipple of the threadless type, and 1" bleeder connection.

Tee is made of heavy malleable iron and has three times the weight and strength of the conventional tee. It has extra-long threads and is plainly marked as to thread size. It is offered in 2", 2½" and 3" sizes. Regular or Upset, x 2", 2½" or 3" Flow Line. Write for Bulletin No. 1.



JARECKI THREADLESS HINGED BELL NIPPLE

The Jarecki Threadless Hinged Bell Nipple is an improved sucker rod guide which protects the threads of the pumping tee when running or pulling rods, and provides a level seat for the elevators. It clamps around the band of any standard malleable tee of corresponding size.

The Nipple sets upon the flat end of the tee. Thus the weight of rods and shock of elevators striking Nipple, are carried by body of tee — not by its threads.

Constructed of malleable iron in 2", 2½" and 3" sizes.

THREADED BELL NIPPLE. For the operator who prefers the threaded type. Screws into top of pumping tee, protecting threads and providing a level seat for the elevators. Offered in 2", 2½" and 3" sizes. Write for Bulletin No. 3.

introduced by

General Offices: St. Louis, Mo. Home Office and Factory: Erie, Pa., U. S. A. District Offices: Pittsburgh, Pa.; Tulsa, and Bartlesville, Okla.; Dallas and Houston, Texas; Mt. Pleasant, Mich.; Lawrenceville, Ill.
Branch Stores at All Important Places in the Oil Country.

OIL FIELD EQUIPMENT

JARECKI IMPROVED BERRY CASING HEAD

Made of semi-steel, the Jarecki Improved Berry Casing Head is designed for high-pressure work, having a test pressure of 2,000 lbs.

This head offers a number of valuable features, including: (1) Full-length A. P. I. casing thread and full-length side-outlet threads. (2) Inclined set screws, arranged perpendicular to bevelled edge of top, thus eliminating bending or breaking of screws. (3) Circular interior, insuring smooth passage of tubing collars. (4) Circular exterior, permitting ready attachment of chain tongs. (5) Set screw flange provided with drain holes. (6) Neat appearance.

This Casing Head is ruggedly constructed throughout. It is offered in all standard casing sizes. Fully described in our Bulletin No. 4, available upon request.

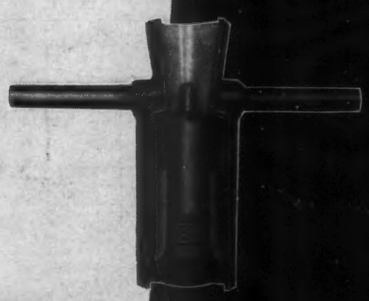
"JARCO" ROLLER PULL ROD CARRIER

Our NEW, HEAVY DUTY 8" diameter size of this carrier is designed to be used at the "peaks" of catenary curves and as a hold-up.

Oil from the ½ pint reservoir in the wheel is metered slowly, through the porous iron-copper alloy bushing to the hardened, ground, and lapped pin. One filling of oil will last one year. Felt dust seals positively keep dust from reaching the bearing surface. Works perfectly for vertical loads up to 1000 pounds.

The REGULAR "JARCO" Roller Pull Rod Carrier, with 3¾" diameter wheel, is designed to be used on fairly level rod lines, usually on every third post, for vertical loads up to 300 lbs. Oil capacity within the wheel is sufficient to last 6 months. Completely described in Bulletin No. 5.

JARECKI-COLLINS SUCKER-ROD BOX CLEANER



The Jarecki-Collins Sucker-Rod Box Cleaner is used for removing dirt, sand and gritty material from sucker-rod boxes and couplings. This tool may also be used as a thread lubricator.

Before a rod is run into the well, its box or coupling is guided into the funnel of the Cleaner. The Cleaner is then raised and lowered three or four times under the box or coupling. This movement actuates a plunger within the Cleaner, causing it to jet the cleaning fluid against the threads and clean them thoroughly. A thin film of oil is left on the threads. Tight, properly made-up joints are insured.

The Jarecki-Collins Sucker-Rod Box Cleaner may be used on all sizes of sucker rods, is entirely self-contained, and is automatic in operation. Its use will reduce pin breaks. Write for Bulletin No. 2.

by **Jarecki**

MANUFACTURING COMPANY

"Since 1852"

Kansas Developments

By
DAL DALRYMPLE

Kraft, Laton Pools Extended; Hittle Well Makes 7,086 Bbl.

The Kraft pool in Barton County, Kansas, was extended nearly ¾ mile northwestward at Aylward Production Co. and others' No. 1 Wendtlandt, CEL NE NE Section 4-17-11w. It found Arbuckle lime at 3,330-44 ft., was acidized and made 24-hour potential of 573 bbl. of oil. Leases adjoining the Aylward acreage are held by Shell Oil Co., Inc., Gulf Oil Corp., Sinclair Prairie Oil Co. and Magnolia Petroleum Co.

The Laton pool in Rooks County was extended nearly 1 mile northward at Broadview Oil Co.'s No. 1 Baxter, NE SW SW Section 35-8s-16w. It topped Topeka lime at 2,885 ft., Lansing lime 3,178 ft., was bottomed at 3,263 ft. and plugged back to 3,204 ft. After acidizing with 6,000 gal., it made initial potential of 125 bbl. of oil.

Aylward & Brimm's No. 1 Dirks, SW SW NE Section 31-18-15w, ½ mile from production in the Albert-Otis area, Barton County, gave promise of extending the productive limits. It swabbed 18 bbl. of fluid from Basal sand at 3,585 ft. and operators continued to test.

Productive limits of the Bornholdt pool were extended ¾ mile northeastward at Fain Drilling Co. and others' No. 1 Mattson, CEL SE NE Section 30-20-5w, southwestern McPherson County, Kansas. It made daily potential of 126 bbl. of oil from chat at total depth of 3,385 ft. The Bornholdt pool was extended recently across the line into southeastern Rice County.

Wildcat Reports

C. Elmer Ash and Crown Petroleum Co.'s No. 1 Manny, NW NW SE Section 33-28-5, outpost about ¾ mile west of the Fox-Bush pool, Butler County, was completed for an estimated 75 bbl. of oil daily. It found Bartlesville sand at 2,767-75 ft., was bottomed at 2,779 ft. and plugged back to the sand.

A gas area was opened in southern Johnson County, about ¼ mile from the Miami County lime, at Joe Willinbring and others' No. 1 Ramey, NW NW SW Section 17-15-23. It failed to find production in Bartlesville sand at 726-32 ft., was dry at 915 ft., total depth, and plugged back to 610 ft., where it was completed for 200,000 cu. ft. of gas daily.

Three Star Oil Co.'s No. 1 Griffith, C NW SE Section 4-14-18, wildcat in Douglas County, had a hole full of water and was abandoned at 2,116 ft.

Earl Wakefield and others' No. 1 Starkey, SE SE NE Section 32-30-4, Cowley County wildcat, found Arbuckle lime at 3,316 ft., and was dry and abandoned at 3,322 ft., total depth.

Phil-Han Oil Co.'s No. 1 Mai, C N½ S½ NE Section 34-14-14w, wildcat in Russell County, was dry and abandoned at 3,286 ft., in conglomerate.

Charles Seaney and others' No. 1 Schaug, CSL SE SW Section 1-16-12w, about 2 miles north of the West Prusa pool, Barton County, was a wildcat location.

Jock Garden's No. 1 Rahn, SW SW NW Section 13-34-5, wildcat about 5 miles southwest of the Wilson pool, Cowley County, was drilling below 800 ft.

Cowley County

The largest Kansas producer completed the past week was W. M. McKnab and others' No. 5 Hittle, NW SW NE Section 21-31-4, Hittle pool, Cowley County. It pumped and flowed 2,362 bbl. of oil in 8 hours to earn potential rating of 7,086 bbl. of oil daily. Oil was found in Arbuckle lime at 3,340-56 ft., total depth.

Trees Oil Co. completed No. 1-B Lewis, NW NW NE Section 28-31-4, in Arbuckle lime at 3,334-48 ft., total depth. It pumped 998 bbl. of oil in 8 hours and made 24-hour potential of 2,994 bbl.

In the Frog Hollow area, W. M. McKnab's No. 3 Moon, NW SW SE Section 16-32-5, found Bartlesville sand at 3,082-94 ft., total depth, pumped 182 bbl. of oil in 8 hours and made daily potential of 547 bbl.

Same operator's No. 4 Moon, SE NE SW Section 16-32-5, topped Bartlesville sand at 3,072 ft. and was bottomed at 3,092 ft. It pumped 187 bbl. of oil in 8 hours and made potential of 560 bbl.

Blair and Continental Oil Co.'s No. 4 Dunlop, NE NW NE Section 21-32-5, pumped 53 bbl. of oil and 8 bbl. of water in 8 hours, making potential of 158 bbl. of oil, with 24 bbl. of water. It found Bartlesville sand at 3,031-69 ft., total depth.

Roth Oil & Gas Co.'s No. 3 Gretsinger, SW NE NE Section 15-31-4, had Arbuckle lime at 3,463-66 ft., total depth, and pumped 10 bbl. of oil and 4 bbl. of water daily.

Arthur Brewer's No. 1 Zerger, SW SW NE Section 33-30-4, Darien area, pumped and flowed 304 bbl. of oil in 8 hours from Arbuckle lime at 3,286-90 ft., total depth. It was completed for potential of 913 bbl. of oil.

Republic Natural Gas Co.'s No. 1 Curfman, NW NW SE Section 33-30-4, topped Arbuckle lime at 3,298 ft., was bottomed at 3,303 ft. After acid treatment, it pumped and flowed 41 bbl. of oil an hour and made depthograph potential of 4,568 bbl. daily.

E. B. Shawver and Gerald M. Smith's No. 1 Henderson, C W½ NE NE Section 4-33-6, about ¾ mile northeast of the Wilson pool, was rigging up cable tools. W. M. McKnab's No. 1 Southwestern College, SE NE SE Section 11-32-4, wildcat, has spudded.

Estimated Daily Production

Estimated daily production for Kansas for the week ending September 23, and for the preceding week was as follows:

	Barrels	
	Sept. 23	Sept. 16
Oxford City	825	800
Burrton	9,750	9,450
Ritz-Canton	4,825	4,625
Graber	2,625	2,475
Hollow-Nikkel	2,175	2,225
Lerado	775	900
Voshell	1,700	1,650
Wellington	2,025	1,950
Ellsworth County:		
Lorraine	1,700	1,825
Other pools	1,395	1,225
Rice-Barton counties:		
Bloomer	3,400	3,050
Chase	4,050	3,850
Geneseo	3,700	3,425
Raymond	725	525
Silica	12,100	10,425
South Silica	2,000	1,900
Keesling	650	650
Wherry	4,225	3,375
Miscellaneous Rice	4,255	4,795
Miscellaneous Barton	9,090	8,565
Russell County	22,425	25,600
Sedgwick County	3,350	3,275
Ellis County:		
Bemis	6,725	5,050
Miscellaneous	3,515	2,480
Kingman County	780	590
Stafford County	6,835	3,760
Greenwood County	9,000	7,925
El Dorado	7,700	6,875
Other fields	28,390	29,570
Total Kansas	160,500	152,700

Russell County

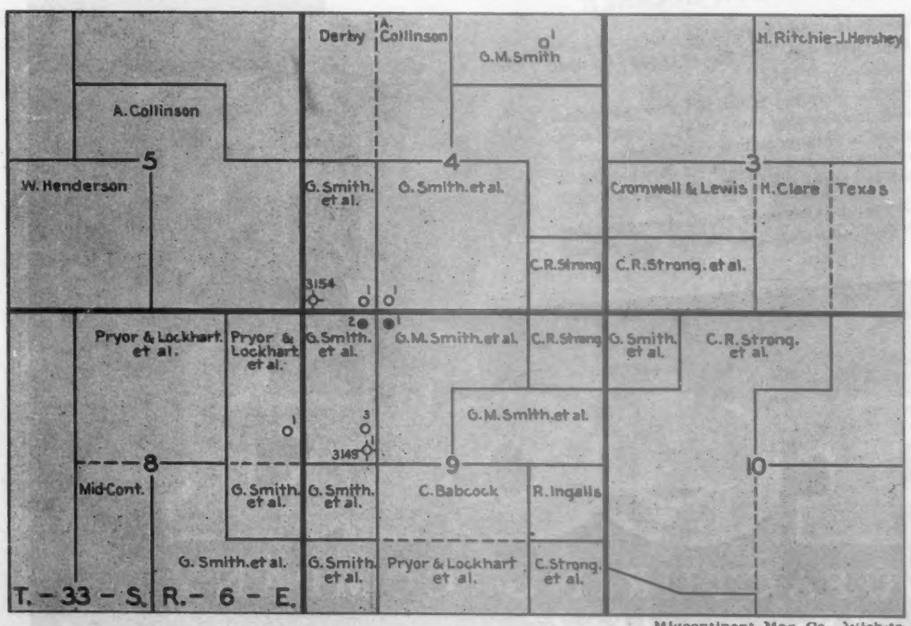
Continental Oil Co.'s No. 5 Meharg, NW SW NE Section 17-15-13w, Coralena pool, Russell County, pumped 696 bbl. of oil in 8 hours and was completed for potential of 2,088 bbl. of oil daily. Production was from Arbuckle lime at 3,213-26 ft., total depth.

Coralena Oil Co.'s No. 8 Sellens, NW SW NW Section 17-15-13w, found Arbuckle lime at 3,229-32 ft., total depth 3,234 ft., water predominated and it was plugged back to 3,232 ft. It was acidized and pumped 15 bbl. of oil daily.

W. I. Southern, Inc.'s No. 3 Trapp, SE SW NE Section 29-15-13w, Trapp field, pumped 25 bbl. of oil in 14 hours from Arbuckle lime at 3,317-21 ft., total depth, and was completed for initial potential of 1,133 bbl. daily.

Shell Oil Co., Inc.'s No. 3-A Batt, C S½ S½ SE Section 35-15-14w, drilled Arbuckle lime at 3,318-39 ft., total depth, swabbed 31 bbl. of oil and 90 bbl. of water in 3 hours. It was completed for initial potential of 313 bbl. of oil, with 2,187 bbl. of water daily.

Skelly Oil Co.'s No. 4 Colliver, NE NE SW Section 28-14-13w, Hall pool, pumped 386 bbl. of oil in 8 hours.



Midcontinent Map Co., Wichita

The new Wilson pool in Cowley County is one of the busier areas in the state. G. M. Smith and E. B. Shawver have started work at No. 1 Henderson, C W½ NE NE Section 4-33-6, ¾ mile northeast of production

Type TU234-JD23TB

Type TU234G-JD23TP

TWO NEW NATIONAL UNIT PUMPERS

The Type TU234-JD23TB NATIONAL UNIT PUMPER

offers at a moderate cost the same general features as the larger National Unit Pumpers, including National Eccentric Disc Cranks and Counterweights and equalized pitman assembly.

The Type TU234G-JD23TP NATIONAL UNIT PUMPER

offers at a lower cost the same capacity and features as the Type TU234-JD23TB Unit Pumper above except that plain cranks, beam counterweights and unitary pitman assembly are used.

BRIEF SPECIFICATIONS TYPES TU234-JD23TB and TU234G-JD23TP

API safe load of walking beam, pounds	9125
Polished rod strokes	27, 34½, 42
Peak torque rating at 20 spm inch pounds	57200
Overall reduction ratio	29.8

NATIONAL

THE NATIONAL SUPPLY COMPANY

EXECUTIVE OFFICES: PITTSBURGH, PA.
GENERAL SALES OFFICE: TOLEDO, OHIO

DIVISION OFFICES: FT. WORTH, TEXAS;
TULSA, OKLA.; TORRANCE, CALIF.

making 24-hour potential of 1,158 bbl. Production was from Lansing lime at 2,859-2,900 ft., total depth.

In the Gurney pool, Alva Billings and associates completed No. 2 Herbel, NW NW SW Section 26-14-14w, at 3,161 ft., total depth. It found Lansing lime at 2,985-3,160 ft., pumped 295 bbl. of oil in 8 hours and made potential of 884 bbl. daily.

Stearns and Vernon Oil & Gas Co.'s No. 8-A Olson, NW cor. Section 27-14-14w, had several pays in Lansing lime, beginning at 3,007 ft., was bottomed at 3,085 ft. in lime, and was acidized. It pumped 903 bbl. of oil in 8 hours and made daily potential of 2,711 bbl.

Aylward Production Co.'s No. 1-A Solbach, SW NE NE Section 31-14-14w, Big Creek pool, was completed for daily potential of 2,246 bbl. of oil after pumping 749 bbl. in 8 hours. Lansing lime was found at 2,942-50 ft., total depth 3,058 ft.

Phillips Petroleum Co.'s No. 1 Mai, NE NE SW Section 15-15-14w, was a location. Stearns Drilling Co.'s No. 2-C Olson, NE NE NW Section 27-14-14w, was rigging up cable tools. Coralena Oil Co.'s No. 10 Sellens, CSL N½ NW Section 17-15-13w, was moving in material. Stanolind Oil & Gas Co.'s No. 2 Boxberger, SE SW Section 14-14-14w, was moving in material. Gulf Oil Corp.'s No. 2 Hill, C W½ SW SE Section 20-15-13w, had set surface pipe.

Rice County

Skelly Oil Co.'s No. 1 Ira, SW NW Section 27-19-10w, northeast extension area of the Silica field, Rice County, topped Lansing lime at 3,036 ft. and was bottomed at 3,044 ft. It flowed 581 bbl. of oil in 8 hours and made 24-hour potential of 1,742 bbl. of oil, with 15,000,000 cu. ft. of gas.

Same company's No. 1 McGuire, SW SW NE Section 34-19-10w, was completed in Arbuckle lime at 3,306-11 ft., total depth. It pumped 171 bbl. of oil in 12 hours and made depthograph potential of 1,153 bbl.

In the South Wherry area, Mid-Plains Oil Co.'s No. 1 Steierl, C W½ SW NW Section 23-21-7w, penetrated conglomerate from 3,385 ft. to 3,392 ft., total depth, pumped 282 bbl. of oil in 8 hours and made potential of 847 bbl. of oil daily.

McPherson Drilling Co.'s No. 1 Patton, SE cor. Section 9-19-9w. Chase-Cramm area, had Arbuckle lime at 3,239-46 ft., total depth, pumped 49 bbl. of oil in 8 hours and made potential of 138 bbl.

Nelson Drilling Co.'s No. 1 Maim, C NE NW Section 25-20-6w. Bornholdt pool, spudded with rotary tools.

Ellsworth County

Shaffer & Howell's No. 1 Matthews, C S½ SW SW Section 19-17-10w, Blomer pool, Ellsworth County, found conglomerate at 3,281-84 ft., and was completed at 3,317 ft., total depth. It pumped 91 bbl. of oil in 8 hours and made 24-hour potential of 273 bbl. of 44-gravity oil.

Ellis County

Shell Oil Co., Inc., completed No. 23 Rumsey, NE cor. Section 23-11-17w, Bemis field, Ellis County, for maximum potential of 2,500 bbl. of oil after it had swabbed 222 bbl. in 4 hours. Arbuckle lime was found at 3,399-3,409 ft., total depth.

Margay Oil Co. and others' No. 1 Bemis, C S½ NW NE Section 33-11-17w, midway between the Bemis and Shutts pools and probably the connecting link between them, pumped 47 bbl. of oil in 8 hours, naturally, and was completed for daily potential of 139 bbl. It had Arbuckle lime at 3,483-84 ft., total depth. Lario Oil & Gas Co. has an interest in the well.

Phillips Petroleum Co.'s No. 1 Sites, C S½ SE SW Section 12-11-18w, South Burnett area, found Arbuckle lime at 3,348-50 ft., total depth, and was completed for initial potential of 2,500 bbl. of oil daily.

Skelly Oil Co.'s No. 1 Koblitz, NE Section 22-12-18w, was moving in material. Wolf State Oil Co.'s No. 1-B Bemis, C S½ NE NW Section 33-11-17w, was moving in material.

Barton County

Shell Oil Co., Inc.'s No. 5-B Bitter, NW SE SE Section 6-16-13w, South Trapp area, Barton County, found Arbuckle lime at 3,348-56 ft., total depth, and swabbed 168 bbl. of oil in 4 hours. It was completed for depthograph potential of 4.991 bbl. daily.

Same company's No. 3 Burmeister, NE NW SE Section 3-17-11w, Kraft pool, topped Arbuckle lime at 3,361 ft., and was bottomed in lime at 3,375 ft. It made echometer potential of 992 bbl. of oil, with 14 bbl. of water daily.

New work in Barton County: E. R. Rabon and others' No. 1 Ford, C S½ Section 7-18-15w, rigging up; B. B. & M. Oil Co. and others' No. 1 Krier, CEL SE SE Section 30-16-11w, wildcat 1 mile southwest of the Prusa pool, moving in tools; Stanolind Oil & Gas Co.'s No. 3 Thomas, CSL SW Section 35-19-11w, moving in material; Broderick & Gordon's No. 1 Kowalsky, CEL SE NE Section 30-20-11w, spudded; Shell Oil Co., Inc.'s No. 6-B Bitter, C W½ SW Section 5-16-13w, cellar; Iron Drilling Co.'s No. 1 Krestin, CEL SE NE Section 20-17-15w, derrick; Magnolia Petroleum Co.'s No. 7 Mueller, SE NE NE Section 1-18-11w, twin, rigging up rotary.

Stafford County

A large producer was completed in the Zenith pool, Stafford County, at E. H. Moore, Inc.'s No. 4 Johnson, C N½ NW NE Section 13-24-11w. It penetrated Misener sand from 3,755 ft. to 3,766 ft., total depth, flowed 229 bbl. of oil in 2 hours and made bomb potential of 6,331 bbl. daily.

New operations in Stafford County: Stanolind Oil & Gas Co.'s No. 4 McComb, C N½ NW SW Section 12-24-11w, moving in rotary rig; same company's No. 3 Sims, C S½ SE NE Section 11-24-11w, rigging up rotary; same company's No. 6 Fuller, C N½ N½ SW Section 11-24-11w, moving in rotary.

McPherson County

E. K. Carey's No. 1 Knackstedt, C S½ SE SW Section 30-20-5w, Bornholdt pool, McPherson County, flowed 648 bbl. of oil in 8 hours and was completed for daily potential of 1,944 bbl. Production was from Mississippi pay at 3,311-28 ft., total depth.

Continental Oil Co. and others' No. 3 Mattson, CNL NE NW Section 31-20-5w, was a location. Henry Bennett's No. 1 Knackstedt, CSL SW SW Section 30-20-5w, was a location. Continental Oil Co.'s No. 2 Mattson, CEL E½ NW Section 31-20-5w, moving in material.

Pratt County

Three large gas wells were completed in the Pratt County sector of the Cunningham-Cairo field. Skelly

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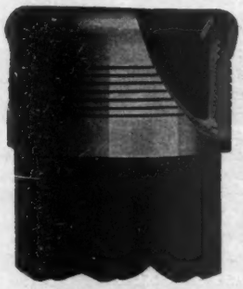

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See Pages 1564-65 COMPOSITE CATALOG

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Oil Co.'s No. 1 Sitton, C NW SE Section 26-27-11w, had Viola lime at 4,111-29 ft., total depth, and gaged 18,216,000 cu. ft. of gas daily.

Same company's No. 1 McClellan, SE Section 36-27-11w, was the largest of the trio, gaging 51,980,000 cu. ft. of gas daily. Viola lime was found at 4,154-65 ft., total depth.

Sinclair Prairie Oil Co.'s No. 1 Allbritten, SE NW NE Section 1-28-11w, topped Viola lime at 4,156 ft., was bottomed in lime at 4,170 ft. and had initial daily gage of 28,500,000 cu. ft. of gas.

Marion County

J. N. Kaufman's No. 1 Pritz, NW NW SW Section 26-17-4, Lost Springs pool, Marion County, had Mississippi pay at 2,350-80 ft., was bottomed at 2,388 ft., and pumped 35 bbl. of oil in 24 hours.

Harwood Oil Co.'s No. 3 Novak, NE NE NW Section 28-17-4, pumped 240 bbl. of oil in 24 hours and was completed in Mississippi pay at 2,408-13 ft., total depth.

Lariaux & Harrington's No. 1 Novak, NE NW SW Section 28-17-4, drilled pay in Mississippi lime at 2,432-36 ft., and pumped 150 bbl. of oil in 24 hours.

Harwood Oil Co.'s No. 4 Novak, SW SE NW Section 28-17-4, was rigging up cable tools.

Woodson County

McCormick and others' No. 2 Specht, NW cor. Section 34-25-14, Batesville area, Woodson County, was dry and abandoned at 1,524 ft.

In Coffey County, Hollett and others' No. 1 Butler, SE SW SE Section 28-20-15, was drilling below 200 ft. with machine.

Stevens County

United Production Co.'s well in SW SW NE Section 1-33-39w, Hugoton field, Stevens County, was treated with 8,000 gal. of acid and made initial gage of 29,000,000 cu. ft. of gas daily. Sand was found at 2,479-2,628 ft., total depth.

Forest City Basin Activity

ST. JOSEPH, Mo., Sept. 25.—The first wildcat to be started in Buchanan County, Missouri, about 3 miles east of St. Joseph, was spudded last Saturday at F. C. Miller and others' No. 1 Corrough, C SE SE Section 24-57-35w. Equipment included standard rig and 84-ft. derrick. Location is an area that has yielded oil and gas showings in tests drilled years ago, and is thought to be on a good structure. Several St. Joseph citizens have contributed financially to the test. South of the Miller acreage are large blocks of leases held by Carter Oil Co. and Ohio Oil Co. The Phillips and Magnolia companies also have acreage in the vicinity.

Efforts of Missouri Valley Gas & Oil Co. to open a gas pool in Platte County appeared successful again the past week when No. 1 Brown, SW NE SW Section 7-51-33w, gaged about 2,250,000 cu. ft. of gas daily at 542-54 ft., total depth, in Peru sand. It also had shown about 300,000 cu. ft. of gas in Wayside sand at 460 ft. Davis Brothers, who have the contract, moved rig about 1,500 ft. south for No. 2 Brown. Same operators' No. 1 Breen, 1,325 ft. north of No. 1 Brown, recently gaged 800,000 cu. ft. of gas. The company has 20 locations staked on its structure.

Brin & Nathan bailed some free oil at their No. 1 Decker, C NW NW Section 1-61-38w, Holt County, at 1,005 ft. in sandy lime. Hole began caving at 1,007 ft. and a broken drill stem caused a fishing job. No water was showing.

Mayson Oil Co.'s No. 1 McGonigle, NW¼ Section 20-63-13w, east of Kirksville, Adair County, had difficulty cementing 5-in. pipe at 1,190 ft. for perforating and acidizing. Viola and Cooper limes are to be tested. Elsewhere in the county, Morrow & Rogers' No. 1 Cooley, SE SE NW Section 33-64-17, topped Mississippi lime at 383 ft. and planned to set 10-in. pipe at 515 ft. Eddington's No. 1 Clark, NE SE Section 8-63-14w, was drilling below 110 ft.

Three Missouri failures were recorded. Bradford's No. 1 Trantos, CWL SE NW NW Section 8-49-32w, Jackson County, found 20,000 cu. ft. of gas in sand at 341-51 ft., had Bartlesville sand at 562-67 ft. and was dry and abandoned at 571 ft. Jones & Hyde's No. 1 Holt, NW NE NE Section 34-60-35w, Andrew County, had Hunton lime at 1,880-2,200 ft., total depth, and was dry and abandoned. Dittman's No. 1 Houston, NW SW NE Section 26-65-19w, Putnam County, found St. Peter sand at 1,590-1,615 ft., Arbuckle lime 1,674-1,779 ft., total depth, had a rainbow showing of oil at 1,674 ft., plugged back to 1,705 ft., but was dry and abandoned.

La.-Ark. Fields

(Continued from Page 80)

ing pressure 75 lb., casing pressure 200 lb., perforated casing at 5,881-87 ft., total depth 5,913 ft.

Munroe—Union Parish

Nemours Corp.'s No. 1 J. A. Haile, Section 3-21-3, 1,000,000 cu. ft. of gas, rock pressure 785 lb., total depth 2,178 ft.

ARKANSAS COMPLETIONS

Wildcat—Pike County

Bruce E. Wallace's No. 2-A Glenn Tilyeu, 320 ft. N, 330 ft. W of SE cor. Section 26-8s-24w, dry and abandoned, total depth 601 ft.

Magnolia—Columbia County

Normandie Oil Co.'s No. 1 Dees, C NE SE Section 24-17-20, 444 bbl. through 12/64-in. choke, tubing pressure 1,550 lb., casing pressure 1,450 lb., total depth 7,479 ft. Southwood Oil Co.'s No. 1 H. F. Simons, C NE SW Section 22-17-20, 384 bbl., 12/64-in. choke, tubing and casing pressure 1,400 lb., total depth 7,264 ft. G. H. Vaughn's No. 1-B J. Jones, C NW NE Section 21-17-20, 349 bbl., 10/64-in. to 13/64-in. chokes, tubing pressure 1,375 lb., casing pressure 1,500 lb., total depth 7,590 ft.

Wildcat—Union County

Joe Modisett and others' No. 3 Union Sawmill, C NW NE Section 13-18-12, dry and abandoned 6,291 ft.

EAST TEXAS BORDER COMPLETIONS

Wildcat—Marion County

J. D. Reynolds and others' No. 1 Mrs. R. S. Terry, W. Coore Survey, pumping, no gage, total depth 2,341 ft., top of Tokio 2,305 ft.

Caddo—Marion County

Van Horn & Clements' No. 1 Berk, G. Coore Survey, dry and abandoned 1,172 ft.

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Rocky Mountain Area

By
T. R. INGRAM

Deep Test Will Be Started in El Paso County, Colorado

DENVER, Colo., Sept. 25. — The northern Rocky Mountain area reported few completions and a slowing down of new operations. In Colorado location was released for a deep test in El Paso County, and a small well was completed in the La Veta district in S. W. Pressey's No. 3-X Campbell. The Continental Oil Co.'s test to the Sundance sand at Fort Collins found water in that horizon and is plugging back.

Wyoming completions included one in Lance Creek, the Ohio Oil Co.'s No. 3 Cash-1, for 300 bbl.; a 5,000,000-cu. ft. gasser for the Stanolind Oil & Gas Co., on Little Buffalo basin in an old well drilled deeper, and a 40-bbl. pumper for Texas Co. at La Barge in its No. 3-E. New operations include a well to be drilled on the South Sunshine dome, Park County, by Mule Creek Oil Co., and one location by Texas Co. at La Barge, and a new well spudding in Big Piney by the Wyoming Petroleum Corp.

Cut Bank and Kevin-Sunburst each reported one average completion in Montana. Two new operations got under way in Cut Bank and one in Kevin-Sunburst.

SOUTHEAST NEW MEXICO

Three new wells were completed in Eddy County, New Mexico, for an aggregate initial daily potential of 620 bbl., while five new wells were completed in Lea County for an aggregate initial potential of 1,383 bbl. per day. The completions in Lea County were divided among the Jal, Cooper Sand, Skelly, and Skaggs pools, with one about midway between the Mattix and the Cooper Sand pools in Section 20-24s-37e. This was Two States Drilling Co.'s No. 1-A Calley, a 30-bbl. well from pay logged from 3,500 to 3,635 ft. Gage was taken through open 2-in. tubing after a shot. This well also produced 1,125,000 cu. ft. of gas daily.

The Loco Hills pool of Eddy County continued the most active area in Southeast New Mexico with 32 drilling wells and 7 new locations. Several outpost tests on both the west and east sides of this field attracted attention during the week as production was indicated. One location south of the two lone producers in the extreme western part of Loco Hills, Me-Tex Oil Co.'s No. 1-B Ballard, C NW NW Section 8-18s-29e, was plugged back to 2,635 ft. from a total depth of 3,017 ft. and was flowing an estimated 80 bbl. of oil daily while cleaning out through casing. A ¾-mile east outpost to the pool, Franklin Petroleum Corp.'s No. 1 Coppedge, NW SW NW Section 5-18s-30e, was drilling near the pay horizon at 2,716 ft. The same operator has a location staked on the Masteller lands, NW NW NE Section 7-18s-30e, ½ mile east of production in the field. Possible failure was seen 3 miles south of the field when L. E. Elliott shut down No. 1 Elliott, SE SE SE Section 24-18s-29e, at a total depth of 3,200 ft., apparently missing the pay section. A new well for the southwest edge of the field was seen in the G. M. Cone No. 1 Langford, C NW SW Section 9-18s-29e. It is shut in at a plugged-back depth of 2,475 ft. after flowing an estimated 50 bbl. of oil daily through open 2-in. tubing. Pay section is logged between 2,435 and 2,441 ft. Another test on the southwest edge of the field is Brainard & Guy's No. 1 Guy, NW SW NW Section 10-18s-29e, which is shut in at a total depth of 2,595 ft. with 2-in. tubing run to 1,993 ft. Preliminary testing has not begun. Providing a ½-mile north extension for the area, Fair & Pope's No. 4-A State, SE SW NW Section 36-17s-29e, was being put on the pump after gaging 45 bbl. daily from the lime at a total depth of 3,252 ft.

Chaves County

A wildcat was staked in the east central part of Chaves County, G. H. Cowden's No. 1 Brunson, C NW NW NW Section 27-9s-30e. It is several miles north of Western Mineral, Inc.'s No. 1 Dow, C SW NW Section 27-10s-30e, which is shut down for orders at a total depth of 4,090 ft. Between Western Mineral' test and the new location, R. M. Baker's No. 1 Baker, NW NW NW Section 19-10s-30e, is shut down after rigging up materials.

Eddy County

Carper Drlg. Co.'s No. 4 Robinson, SE SE SW Sec. 25-16-31. T.D. 4,025 ft.; S.&F. est. 20 B.O.P.D.; reshot with 150 qt. and est. 25 B.O.P.D.
G. R. Burke's No. 1 State, NE NE NW Sec. 36-16-24. Drlg. 1,375 ft.
B. H. Nolem's No. 1 Iles, SE SE SE Sec. 17-16-29. Skidded 15 ft. west, spd. new hole; drlg. 1,330 ft.
Allen, Fair & Pope's No. 4-A State, SE SW NW Sec. 36-17-29. T.D. 3,252 ft.; pay 3,200-11 ft.; C.O. 3,252 ft.; swbg. 75 B.O.P.D.; prep. to pmp.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. S.D.R. 423 ft.
J. R. Cones et al's No. 1 Saunders, SE SE NW Sec. 13-17-27. S.O. 505 ft.; S.D.O. 600 ft.
Danciger O. & R. Co.'s No. 5-A Turner, C N½ NW NW Sec. 19-17-31. Drlg. 3,355 ft.
R. W. Fair's No. 1-B State, SE NW SW Sec. 36-17-29. Drlg. 3,210 ft.
Gravburg Oil Co.'s No. 1 State, NE SW SW Sec. 36-17-29. Est. 130 B.O.P.D. naturally; prep. shoot oil sd. 2,746-72 ft.
J. E. Hughes' No. 3 Brooks, NE NW NW Sec. 19-17-28. S.D.O. 2,222 ft.
Plains Prod.'s No. 1 Daugherty, SE SE SE Sec. 11-17-27. T.D. 428 ft.; S.D.O.
Republic Prod.'s No. 3-B Robison, SE SE SE Sec. 35-17-29. S.O. 3,165 ft.; shot with 40 qt.; est. 4 B.O.P.D.; S.D.O. 3,302 ft.
Shallow Rock Oil Co.'s No. 3 Hastie, NW SW SW Sec. 18-17-28. S.D. 566 ft.
Brainard & Guy's No. 1 Guy, NW SW NW Sec. 10-18-29. T.D. 2,595 ft.; F. 50 B.O.P.D.; S.I.
Plains Prod. Co.'s No. 1 Massie, C SW SW Sec. 27-18-29. S.D.R. 1,825 ft.
Barnev Cockburn's No. 1 Graham-State, C NE NE Sec. 16-18-31. Drk.
G. M. Cone's No. 1 Langford, C NW SW Sec. 9-18-29. T.D. 2,725 ft.; P.B. 2,475 ft.; est. 40 B.O.P.D.
Continental et al's No. 1 Travis, SE SE SE Sec. 3-18-29. P.B. 2,670 ft.; pmp. 65 B.F. in 12 hrs.; ⅛ oil, ⅝ b.s. and w.
L. E. Elliott's No. 1 Elliott, SE SE SE Sec. 24-18-29. S.D.O. 3,200 ft.
Franklin Pet. Corp.'s No. 1 Masteller, NW NW NE Sec. 7-18-30. Loc.
Farmer Tallmadge's No. 1 Hubbell, NE SW Sec. 4-18-25. S.D. 1,050 ft.; repairs.
Franklin Pet. Corp.'s No. 1 Cappedge, NW SW NW Sec. 5-18-30. Tstg. 5½-in. wtr. shutoff at 3,092 ft.; S.D.
E. S. McAuliff's No. 1 Coates, C SE NE Sec. 3-18-23. S.D.R. 1,002 ft.
Me-Tex et al's No. 1-B Ballard, C NW NW Sec. 8-18-29. T.D. 3,017 ft.; P.B. 2,635 ft.; est. 30 B.O.P.D. while C.O.
Saunders Bros.' No. 1 Travis, Sec. 17-18-29. P.B. 2,578 ft.; swbd. 144 B.O.P.D.
Saunders Bros.' No. 1 Murdock, NW NW SW Sec. 4-18-29. T.D. 2,625 ft.; F. est. 100 B.O.P.D.; installing pmp.
Fred Turner's No. 1 Nickson, C NE NE Sec. 30-18-26. S.D.O. 2,150 ft.
Underwood & Sanders' No. 2 Miller, SW NW NW Sec. 4-18-29. T.D. 2,405 ft.; milling csg. 1,800 ft.; jnkd. hole; skidded 50 ft. east; drlg. 530 ft.
Underwood & Sanders' No. 3 Miller, SE SW NW Sec. 4-18-29. P.B. 2,660 ft.; comp.; 90 B.O.P.D.; after shot.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. S.D. 2,355 ft.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.O. 1,530 ft.; W.O. csg. 1,530 ft.

Chaves County

G. H. Cowden's No. 1 Brunson, 330 ft. N and W lines. Sec. 27-9s-30e. Loc.
R. M. Baker's No. 1 Baker, NW NW NW Sec. 10-19-30. R.U. and S.D.
Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. Pren. to cmt. off csg. from 3,336-70 ft.
Comanche Drlg.'s No. 1 Campbell, NE NE NW Sec. 15-13-26. P.B. 1,271 ft.; est. 2 B.O.P.D.; S.D.O. 1,343 ft.; T.D.
E. J. Fisher's No. 1 Hill, CSL S½ Sec. 8-15-25. Drlg. 500 ft.
Nay Hightower's No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 3,445 ft.; P.B. 3,430 ft.; S.D.O.
Tarkenton Bros.' No. 1 Peters, SE SE NW Sec. 33-11-25. Drlg. 1,214 ft.
Western Minerals, Inc.'s No. 1 Dow, C SW NW Sec. 27-10-30. S.O. 3,920-25 ft.; S.D.R. 4,090 ft.

Dona Ana County

Picacho O. & G. Co.'s No. 1 Armstrong, Sec. 15-23s-1w. S.D. 2,410 ft., T.D.; repairs.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. S.D. 2,785 ft., T.D.; repairs.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. S.D.O. 1,000 ft.

Lea County

Coastal Development's No. 1 Caylor, NW NW SE Sec. 6-17-37. T.D. 5,005 ft.; reran 2-in. tbg. to 4,784 ft.; ran 1-in. tbg. inside of 2-in. to 3,339 ft., with 5 flow valves.
Paul Love's No. 3 Pearsall, C NW NW Sec. 33-17-32. P.B. 3,915 ft.; F. est. 55 B.O.P.D.
Maljamar O. & G. Co.'s No. 2 Mitchell, SW SE SW Sec. 5-17-32. T.D. 4,498 ft.; P.B. 3,862 ft.; S.I.; P.B. depth 4,003 ft.
Ohio Oil Co.'s No. 1 State-Staplin, C SE NW Sec. 19-17-35. Drlg. 4,640 ft.
Continental Oil Co.'s No. 8 Britt B-15, C W½ NW SE Sec. 15-20-37. Tstg. 3,882 ft.; 73 B.O. in 7 hrs. after acd.
Wilson Oil Co.'s No. 1 Shell-State, C NE SW Sec. 7-21-35. T.D. 3,736 ft.; tstd. 48 B.O.P.D.; 12/64-in. ck.
J. C. Clower's No. 3 Christmas, SE SE NE Sec. 28-22-37. Drlg. 3,635 ft.
Peters & Elder's No. 3 Brunson, SW SW SW Sec. 3-22-37. Est. 50 B.O.P.D. at 3,242 ft.; tstg.
Lem Peters' No. 2 T. O. May, SW SW NE Sec. 34-22-37. S.I. 3,655 ft.; comp.; 124 bbl. in 12 hrs. at 3,570-3,655 ft.
Skelly Oil Co.'s No. 1 Sherrell, C SW SW Sec. 31-24-37. R.U.R.
Anderson-Prichard Oil Corp.'s No. 9 Wells, C SW NE Sec. 6-25-37. P.B. 3,530 ft.; 20 bbl. in 24 hrs. with 25% wtr. on gas lift.
Continental Oil Co.'s No. 1 State A-2, C SW SE Sec. 2-25-37. T.D. 3,500 ft.; P.B. 3,480 ft.; tstd. 1,140,000 cu. ft. gas; no oil.
Hershback Drlg. Co.'s No. 1 Woolworth, NE NE SW Sec. 8-25-37. Abd. loc.

SOUTHEAST NEW MEXICO COMPLETIONS

Chaves County

Stanfield's No. 1 Bogle, Section 27-13s-25e, temporarily abandoned location.

Eddy County

Aston & Fair's No. 1 Hudson, Section 18-17s-31e, topped the pay at 3,369 ft. and drilled to a total depth of 3,533 ft., plugged back to 3,508 ft. and completed for 500 bbl. of oil and 5 bbl. of water per day.
Me-Tex Supply Co.'s No. 1 State 2, Section 2-19s-31e, topped the pay at 3,330 ft. and drilled to a total depth of 3,685 ft., plugged back to 3,680 ft. and completed for 30 bbl. daily after a shot. Underwood and others' No. 3 Miller, Section 4-18s-29e, topped pay at 2,590 ft. and drilled to 3,295 ft., plugged back to 2,660 ft. and completed for 90 bbl. daily through open tubing after shot.

Lea County

Hershback Drilling Co.'s No. 1 Woolworth, Section 8-25s-37e, abandoned location. Humble Oil & Refining Co.'s No. 6 Williams, Section 34-24s-37e, topped pay at 3,300 ft. and drilled to a total depth of 3,500 ft., completed for 360 bbl. in 2 hours through ¾-in. choke after shot. Lem Peters' No. 3 T. O. May, Section 34-22s-37e, topped pay at 3,570 ft., drilled to 3,655 ft., completed for 192 bbl. in 12 hours with the first 6 hours on open flow through tubing and the second 6 hours through ¼-in. choke. Repollo Oil Co.'s No. 1-E State, Section 32-24s-37e, topped pay at 3,476 ft., total depth 3,540 ft., completed for 222 bbl. daily, naturally, through ½-in. choke. Stanolind Oil & Gas Co.'s No. 5-B Gilluly, Section 22-20s-37e, topped pay at 3,775 ft. and drilled to 3,860 ft., completed for 149 bbl. in 8 hours through 16/64-in. choke after acid. Two States Drilling Co.'s No. 1-A Calley, Section 20-24s-37e, topped pay at 3,500 ft., and drilled to 3,635 ft., completed for 30 bbl. daily through open tubing after shot. Two States Drilling Co.'s No. 2 Calley, Section 20-24s-37e, abandoned location.

NORTHWEST NEW MEXICO

Bernalillo County

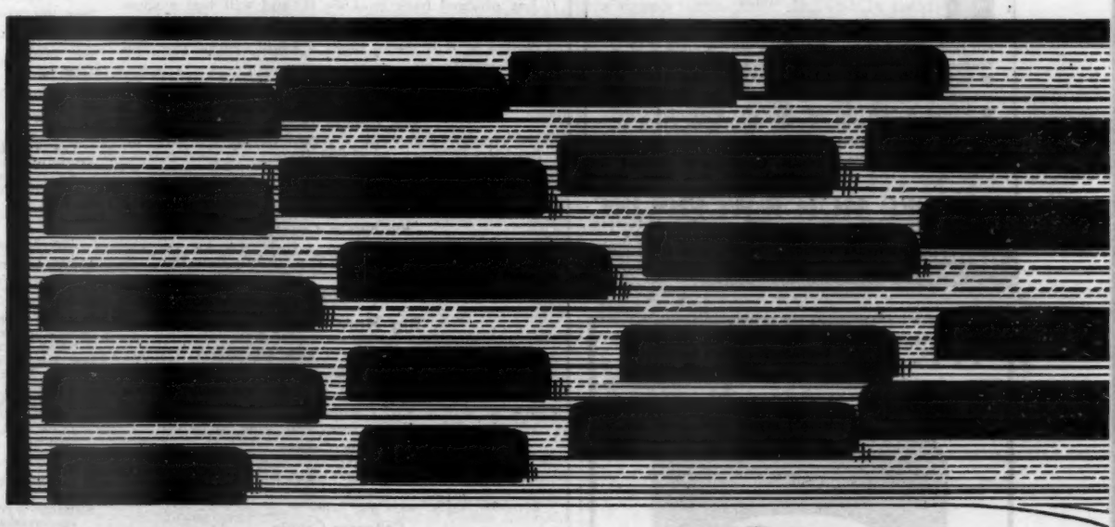
Norins Realty Co., Inc.'s No. 2 North Albuquerque, NE SE NW Sec. 19-11n-4e. T.D. 4,550 ft.; C.O. to res.
Norins Realty Co., Inc.'s No. 2 Pajarita, Sec. 32-9n-1e. S.D. 1,800 ft.

San Juan County

The Continental Oil Co.'s No. 96 Rattlesnake, NE NE SE Section 2-29n-19w, Rattlesnake pool, was completed in the Dakota at 832 ft. for 20 bbl. of oil and 4 bbl. of water per day.

COMPLETE, COMPREHENSIVE HANDBOOK OF *Engineering* DATA

The Producing Equipment Directory, now in process of development, will include the finest compilation of Engineering Data on Producing Equipment ever published under one cover. The equipment and operating methods will be discussed in a factual and comprehensive manner. Simple, accurate graphs together with A.P.I. specifications will serve to make the Engineering Data more practical, helpful and extremely valuable to users of the Directory. Operators who have reviewed sections of the Engineering Data already completed say it is the most thorough and informative they have ever seen on those subjects. Another feature designed to make the Directory still more indispensable is the Buyer's Guide, which will afford the only authentic and up-to-date listing of its kind available. These features will encourage constant usage of the Directory, and, as a result, advertisers will reach their prospects and customers more often than through any other catalog type medium.



Pictured here is the proposed arrangement of Tabbed Index to contents of the Producing Equipment Directory. Engineering Data concerning the equipment listed on the various tabs will precede each of the tabbed sections. Thus each tabbed section will contain special engineering data and related advertising, segregating this material from the balance of the book.

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This B-M-W Anchor seats the Admore Liner Barrel or other Insert Pumps at any desired point in the tubing. It packs off and holds down directly in the tubing itself. Simply LIFT and TURN the rods when the desired setting position is reached, and the B-M-W ADMORE Insert Pump Anchor is "SET."

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STAR CUPS

Angel Peak Oil Co.'s No. 8 Govt., C NW SW Sec. 13-28n-11w. T.D. 1,420 ft.; R.U. new rig.
Continental Oil Co.'s No. 12 Table Mesa, NE NE SW Sec. 3-27n-17w. T.D. 1,327 ft.; cmtd. 5-in.; W.O.C.
Continental Oil Co.'s No. 100 Rattlesnake, NE NW NE Sec. 2-29n-19w. Drlg. r.b. 3,090 ft.

San Miguel County

Southwest Drlg., Inc.'s No. 1 Conchas, NW NE Sec. 34-17n-21e. Drlg. 2,225 ft.

Torrance County

Orville J. Lee's No. 1 Lee, NW NW SW Sec. 12-6n-7e. T.D. 1,950 ft.; rng. 6¼-in.
Drice Co.'s No. 1 Garland, NE SE NE Sec. 32-7n-7e. T.D. 2,016 ft.; drlg. by bit.

COLORADO

Boulder County

Continental Oil Co.'s No. 1 Barra, SE NE SW Sec. 5-1s-69w. Drlg. 4,270 ft.; prob. in top Hygiene form.

Custer County

Henry Donnelly's No. 1 Hodge, SE NE Sec. 26-21s-69w. Drlg. 925 ft.; not yet in Milsap.

Fremont County

T. E. Maloney's No. 1, SE NW Sec. 34-19s-69w. Drlg. 1,700 ft.

El Paso County

F. F. Hintze and others are building rig on the Ramah structure for No. 1 State, in Section 16-11s-60w. It will be a cable-tool operation and most of the equipment is on the ground. Location is 6 miles southeast of the Plymouth Oil Co.'s No. 1 Brosky-Union Pacific, in Section 19-10s-60w, drilled last year on the Rich block, which had the top of the Dakota series at 6,647 ft.

F. F. Hintze et al's No. 1 State, CEL SE SE Sec. 16-11s-60w. Bldg. rig; (first report).

Huerfano County

S. W. Pressey's No. 3-X Campbell, NW NW NW Section 11-29s-69w, La Veta district, was completed at 105 ft., 1 ft. in the pay, for 5 bbl. per day on a bailing test. It is preparing to pump. Rig has been moved 250 ft. northwest for No. 4 Campbell. The wells are offsets to the Tomkins' No. 1 Ojo, which showed for a few barrels at 420 ft.

S. W. Pressey's No. 4 Campbell, NW cor. Sec. 11-29s-69w. R.U.; (first report).

Jackson County

W. N. W. Corp.'s No. 1 North Park Coal Co., NW NW Sec. 18-9n-78w. T.D. 4,100 ft.; U.R. 8¼-in.

La Plata County

Nick Splatter's No. 1-X Bryce, C SW SW Sec. 32-33n-9w. T.D. 2,415 ft.; U.R. 6⅝-in.

Larimer County

The Continental Oil Co.'s No. 1 Meyer, on the Fort Collins dome, an old producer in the Muddy sand which was drilled deeper to test the Sundance, was drilled to 5,206 ft. and had water in a sand topped at 5,037 ft. It has plugged back to 4,686 ft. and will test a show of oil in the Dakota at 4,658-83 ft. On a drill-stem test it looked as if it might make a small commercial well of 31.6-gravity oil.

Continental Oil Co.'s No. 1 Meyer, SW SE SW Sec. 19-8n-68w. T.D. 5,206 ft.; P.B. to 4,686 ft.; W.O.C.

Las Animas County

J. H. Hulme et al's No. 1 Azar, SE SE NW Sec. 27-34s-58w. Drlg. gr. sd. 1,855 ft.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 7,043 ft.

Rio Blanco County

Texas Co.-California Co.'s No. 2 Unit, NW SE SW Sec. 27-3n-94w. T.D. 6,702 ft.; S.I. to install flow line.

WYOMING

Big Horn County

A. L. Rankin's No. 1 Karjala-Rankin, C SW NW Section 10-54n-94w, Spence district, was plugged and abandoned at 910 ft. It stopped in the Madison lime.

Frank S. Scott's No. 1 Robertsen, SE SE SE Sec. 6-54n-93w. T.D. 645 ft.; rmg. 8-in. hole to 10 in.

Carbon County

Sinclair-Wyoming Oil Co.'s No. 12-B Wertz, SE NW NW Sec. 7-26n-89w. Drlg. 5,891 ft.
Producers Oil Co.'s No. 1 Lake Valley, CNL Sec. 14-20n-88w. Drlg. sdy. sh. 3,380 ft.

Converse County

New Era Fuel Co.'s No. 1 Simonson, NW NE SE Sec. 16-32n-68w. Drlg. 864 ft. in White River form.; 6⅛-in. at 846 ft.

Fremont County

Sinclair-Wyoming Oil Co.'s No. 11, CSL NE NE Sec. 15-32n-95w. T.D. 3,290 ft.; trying to free D.P.
Pilot Oil Co.'s No. 8 Hoffman, C SW SW Sec. 22-3n-1w. Drlg. below 1,000 ft.
Consolidated Oil Properties' No. 3 Ewart, C SW SE Sec. 16-1n-1w. Drlg. 1,410 ft.

Natrona County

Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. Drlg. 4,150 ft.

Hot Springs County

J. W. Bales' No. 1 Govt., CWL NW SE Sec. 21-42n-90w. Cmtd. 15½-in. at 109 ft.

John W. Selby's No. 1 Kyne, SW NW Sec. 22-43n-92w. Drlg. 230 ft.; wtr. in Frontier at 224 ft.

Niobrara County

Lance Creek had only one completion in the Ohio Oil Co.'s No. 3 Cash-1, SW NW SW Section 4-35n-65w, on the southeastern side of the field, an inside well. It was drilled to 5,488 ft. and had the top of the Leo sand at 5,433 ft. After acidizing with 1,000 gal. it swabbed 275 bbl. in 24 hours and then flowed 266 bbl. in the next 24 hours. Red Marker was at 5,322 ft. and elevation is 4,475 ft.

A. B. Cobb's No. 4 Novick-Ong will make a producer in the Joss sand after failing to find production in the Leo sand. It was swabbing 6 bbl. per hour from the Joss sand at 5,380 ft., total depth, and is a near completion.

Minnelusa Oil Corp.-MacKinney Oil & Drlg. Co.'s No. 6 Thompson, NE NW SE Sec. 7-35n-65w. Drk.; M.I.R.
Continental Oil Co.'s No. 4 Apex-1, NW NE NE Sec. 34-36n-65w. Bldg. drk.
Continental Oil Co.'s No. 5 Apex-3, SE NE SW Sec. 34-36n-65w. R.U.R.
Argo Oil Co.'s No. 11-B Elliott, NE NE SW Sec. 5-35n-65w. Drlg. 1,440 ft.; 13-in. cmtd. at 315 ft.
Continental Oil Co.'s No. 4-B Diehlman, SW SW NW Sec. 8-35n-65w. Drlg. sh. 2,138 ft.
Ohio Oil Co.'s No. 13 Lamb-Acct. 1, NW SE NE Sec. 5-35n-65w. Drlg. 820 ft.; 12½-in. cmtd. 289 ft.
Continental Oil Co.'s No. 7 Rodeo-4, SW SW NE Sec. 35-36n-65w. Drlg. sh. 4,170 ft.
C. L. Price's No. 2 Lamb, SE NW NW Sec. 7-35n-65w. Drlg. 2,920 ft.
Argo Oil Co.'s No. 10-A Elliott, SE NW SE Sec. 5-35n-65w. Drlg. r.b. 4,150 ft.
Argo Oil Co.'s No. 7 Ford, NW SE NW Sec. 33-36n-65w. Drlg. 4,668 ft.; T. r.b. 4,148 ft.
A. B. Cobb's No. 4 Novick, SE SE SW Sec. 6-35n-65w. T.D. 5,380 ft.; tstg.
F. F. Hintze et al's No. 1 Wright-Govt., C NW SE Sec 30-36n-63w. T.D. 4,964 ft.; cmtd. 7-in. at 4,617 ft. and S.D.
Fall River Rov. & Prod. Co.'s No. 1 Govt., CSL SE SE Sec. 35-40n-61w. Drlg. 2,390 ft.; S.G. 2,115-25 and 2,255-60 ft.
Continental Oil Co.'s No. 10 Otto Rohlff, SW NW SE Sec. 31-36n-65w. T.D. 5,449 ft.; cmtd. 7-in. 5,368 ft.; T. Leo sd. 5,373 ft.

Park County

The Stanolind Oil & Gas Co.'s No. 36 Government, SE SE NW Section 1-47n-100w, Little Buffalo basin gas field, was recompleted at 1,551 ft. for 5,000,000 cu. ft. of gas per day from the Frontier. It was an old well completed in the top of the Frontier at 1,328 ft. a number of years ago for 27,000,000 cu. ft. of gas.

The Mule Creek Oil Co., a subsidiary of the Yale Petroleum Corp., has acquired interests in North Sunshine and South Sunshine fields and is undertaking some work. It has made a location on the South Sunshine dome for No. 1 in Section 9-46n-101w. One well was drilled in this field in 1926 by the Union Oil Co. of California in Section 9-46n-101w, and averaged 400 bbl. per day at 2,514 ft. from the Embar formation. The well has never been put on regular production. The new operator is going back into No. 1 Taylor, NE NE NW Section 22-47n-100w, on North Sunshine, clean it out, acidize it and give it a test. It was completed in 1928 by the Union Oil Co. of California in the Tensleep at 3,525-3,754 ft. for 25 bbl. per day of black oil. It also has been shut in for 11 years.

Mule Creek Oil Co.'s No. 1, Lot 51, Sec. 9-46n-101w. Loc. (first report).
Stanolind O. & G. Co.'s No. 2 Ohio, NW NW NE Sec. 3-47n-100w. T.D. 1,344 ft.; pulled 10¾-in. and reran to 1,290 ft. and cmtd.

Sublette County

The Texas Co.'s No. 3-E, NE SW NW Section 27-27n-113w, LaBarge district, was completed at 940 ft. and pumped 40 bbl. first 24 hours.

Texas Co.'s No. 2-F, SE SW SW Sec. 27-27n-113w. Loc. (first report).
Wyoming Pet. Corp. No. 2 Govt., SE cor. Sec. 3-29n-113w. Spdg. (first report).
Joe Minton's No. 1 Govt., NE SE NE Sec. 28-27n-113w. T.D. 992 ft.; cmtd. 8¼-in. at 980 ft.; will test S.O.
California Co.'s No. 1 Unit 1, C SW NE Sec. 14-31n-109w. Drlg. 8,625 ft.
Wyo. Pet. Co.'s No. 1 Budd, C NE NE Sec. 10-29n-113w. S.D. 2,845 ft.; M.I. steam boilers and mud pumps and prep. for winter oper.

Sweetwater County

Vermilion Oil Co.'s No. 1 Govt., SW SW SW Sec. 7-12n-99w. T.D. 1,200 ft.; C.O. at 805 ft.
Sinclair-Wyoming Oil Co.'s No. 86-A, SE NE NE Sec. 10-26n-90w. Drlg. 1,460 ft.
Sinclair-Wyoming Oil Co.'s No. 1 Mosey, NW NW NW Sec. 18-18n-104w. T.D. 2,610 ft.; cmtd. 8⅝-in. at 2,606 ft.
Wyoming-Calif. Pet. Co.'s No. 2 Govt., CWL NW SW Sec. 24-17n-104w. T.D. 1,725 ft.; prep. to run and carry 8⅝-in.

Weston County

Osage Trust's No. 1 Govt., NW NW SE Sec. 7-41n-60w. T.D. 600 ft.; cmtd. 10-in. 586 ft. for W.S.O. in Dakota at 315-50 ft. (cor. loc.).
Bruce C. Teeters' No. 1 State, SW SW SE Sec. 36-32n-61w. T.D. 1,760 ft.; T. Converse 1,748 ft.; U.R. 10-in. to top of sd.

MONTANA

Carbon County

V. W. Kirk's No. 1 Robinson, SW SW NW Sec. 2-7s-21e. Drlg. 5,517 ft.

Chotcau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. T.D. 1,991 ft.; C.O. to res.

Glacier County

The Cut Bank field had one completion in the Texas Co.'s No. 7 Section 9 Unit, C SW SW Section 9-32n-5w, which swabbed 81 bbl. first 18 hours from the Cut Bank sand at 2,985 ft., total depth.

Two new locations were released.

Glacier Prod. Co.'s No. 2 Barrington, C NW NE Sec. 19-33n-5w. Loc. (first report).
M. R. Wagner, Tr.'s No. 2 Tribal-173, NE SE SE Sec. 12-32n-6w. R.O.G. (first report).
Huber-Montana's No. 3 Govt., C NW NW Sec. 24-37n-5w. Drlg. 800 ft.; 10¾-in. at 207 ft.; Colo. 445 ft.
Texas Co.'s No. 8 Morrison, CEL NW NE Sec. 22-35n-6w. Drlg. 325 ft.
A. B. Cobb & Co.-Texas Co.'s No. 1 Vasboe, CEL NW SW Sec. 27-37n-5w. T.D. 2,700 ft.; wtr. in Cut Bank sd. at 2,690 ft.; P.B. to 2,680 ft.; will shoot Sunburst sd. at 2,666-72 ft.
Texas Co.'s No. 4 Hardwick, C NW SE Sec. 17-32n-5w. T.D. 2,990 ft.; cmtd. 7-in. at 2,988 ft.
Glacier Prod. Co.'s No. 2 Hall, C NE SW Sec. 35-36n-6w. T.D. 2,335 ft.; drld. out cmt.

Liberty County

Coolidge & Coolidge's No. 1 Forseth, CWL SW NW Sec. 8-35n-4e. R.U.

Meagher County

Dan Drumheller's No. 1 Moss Agate, SW SE NE Sec. 25-7n-7e. Drlg. 1,950 ft.

Pondera County

Pondera Oil Synd.'s No. 1 Haber, NE NW SE Sec. 17-27n-4w. Drlg. 1,650 ft.

Teton County

R. C. Tarrant's No. 1 Hoeschen, NE SE Sec. 34-27n-5w. T.D. 2,298 ft.; prod. dropped to 8 B.P.D.; reacd. 1,500 gal.; tstg.

Toole County

Kevin-Sunburst had one completion in Nepsted-Montgomery-Fargher's No. 2 Haugen, SE SW SE Section 2-35n-3w, which is pumping 18 to 20 bbl. per day at 1,630 ft. from the Sunburst sand at 1,610-30 ft.

Imperial-Craig's No. 1 Gauss, C SW NE Sec. 18-35n-1w. Drlg. 300 ft. (first report).
Montana-Dakota Utilities Co.'s No. 1 Krutsfeld, C SE SW Sec. 1-33n-1w. Drlg. 960 ft.
Frazer & Smith's No. 2 Van Note, NE SW NW Sec. 30-35n-2w. Drlg. 940 ft.
Coolidge & Coolidge's No. 1 Maley, SW NE SE Sec. 31-36n-1w. S.D. 100 ft.
L. J. Yealy's No. 13 Shaw, NE SW SE Sec. 35-36n-2w. Drlg. 1,320 ft.
Italo Pet. Corp.'s No. 1 Cornett, C SW NW Sec. 30-37n-3w. T.D. 1,935 ft.; U.R. 8⅝-in.
Morton & Shaw's No. 1 Ellingson, NE NE NW Sec. 23-35n-3w. S.D. 400 ft.
G. & A. Oil Co.'s No. 14 Goeddertz, NE SE SW Sec. 23-35n-3w. Drlg. 1,310 ft.
Le Mac Oil Co.'s No. 1, SW SE SW Sec. 3-34n-4w. Drlg. 2,065 ft.

UTAH

Box Elder County

Northern Oil Co.'s No. 1 Govt., C NE SW Sec. 17-13n-4w. T.D. 400 ft.; cmtd. csg. at 240 ft.

Grand County

Cane Creek Oil Co.'s No. 2 Shaffer, NW SW SW Sec. 31-26s-21e. T.D. 3,180 ft.; 6⅝-in. at 3,135 ft.; drlg. plug.

SOUTH DAKOTA

Harding County

South Dakota State Roy. Co.'s No. 1 State, SW NW Sec. 35-18n-1e. Drlg. below 2,000 ft.

Indiana Fields

(Continued from Page 65)

In Delaware County W. E. Black's No. 1 Thomas, SW NW NE Section 10-22n-10e, drilling at 1,495 ft.

In Decatur County Hoosier Public Utilities Co. has machine in for No. 204, Ben Harpring land, C NE NW Section 14-9n-9e.

In Clay County Dorsey Oil Co.'s No. 1 Hickman, NW SE SE Section 15-9n-6w, was drilling at 250 ft.

In Vigo County Siosi's No. 1 Hilbrandt, C N½ NW NW Section 15-10n-10w, was drilling at 2,000 ft. Mississippi lime was topped at 1,000 ft.

In Owen County Young and Ellis had rig on the ground for No. 1 Rice, NE NE NW Section 29-11n-3w.

In Hancock County J. H. Synder was drilling at 220 ft. in No. 1 Gates, SE cor. SW¼ Section 34-16n-7e.

In Marion County C. E. Jefferson spudded No. 1 Indianapolis Water Co., NE cor. SW¼ Section 15-16n-3e.

In Tipton County Fred W. Eastman and others' No. 1 Vandeventer, SE SW NE Section 21-21n-3e, total depth 1,349 ft., hole was being straightened to ream 6-in. casing.

In St. Joseph County K. V. Nilson has started drilling No. 1 Joseph Kush, NE NE NE Section 8-37n-1e.

In Spencer County Damron Brothers had machine in for No. 2 Niles, SW SE SE Section 35-7n-7w. Kelly and others No. 1 Niles, SE SW SE Section 35-7n-7w. drilling at 1,510 ft. J. S. Albertson made a location for No. 1 Ray, SW NE SE Section 11-6s-4w. D. P. Hyne's No. 1 Varner, NE NE SW Section 24-6s-5w, was shut down at 1,061 ft. Major Oil Co.'s No. 1 Haynes, SE SE NE Section 11-6s-7w, shut down at 1,000 ft. Sunshine Oil Co.'s No. 1 Trent, NE SW SE Section 11-5s-6w, drilling at 855 ft. Glen Dean topped at 833 ft.

In Vanderburg County J. L. Drake's No. 1 Keil, NW NW NW Section 5-6s-10w, drilling at 1,000 ft. K. R. Bixby's No. 4 Glaser, SE cor. SW SW NW Section 31-5s-11w, moving in tools. J. R. Ruskis' No. 1 Poole, NE NW SW Section 31-5s-11w, shot with 80 qt. at 1,215-35 ft., 400 ft. of oil in the hole, cleaning out.

In Daviess County Ruble's No. 1 Huff, NW SE NW Section 9-2n-5w, total depth 550 ft., fishing. Fred Hartman's No. 1 White, C W½ NW NW SW Section 22-2n-7w, shut down at 1,160 ft. T. J. Boyce's No. 1 Purcell, in Donation 224, Township 2n-8w, Niagara lime topped at 2,723 ft., drilling at 2,800 ft., with no showing of oil. Neely & Young's No. 1 Stuffle, NE NW NE Section 29-4n-5w, show of gas at 654 ft., in the Chester series; hole full of water at 773 ft.; drilling at 755 ft.

In Knox County A. C. Thomas' No. 1 Schwab, Lot 44, in Township 2n-10w, was fishing at 1,465 ft. Midwest Development Corp.'s No. 1 Frey, SE SE SW Section 11-2n-11w, was pumping 30 bbl. of oil and 30 bbl. of water per day from a total depth of 2,018 ft. The water is coming from the bottom of the hole. It was not a completion. LeRoy Harrison had machine in for No. 1 Schuman, C SE NW Section 9-5n-8w.

In Sullivan County Salem Oil Co.'s No. 1 Woodward, NW NW NW Section 7-8n-9w, drilling at 1,574 ft. Siosi & Pardoe's No. 1 Cushman, NE NE SE Section 18-8n-10w, drilling at 623 ft.

In Pike County George W. Miller's No. 1 Nixon, SE SW NE Section 14-3s-8w, total depth 3,648 ft., reaming to lower 6-in. casing. Vern Burden's No. 1 Frederick, NE NW SE Section 28-1n-9w, shut down at 1,646 ft.

CENTRAL OHIO

NEWARK, Ohio, Sept. 25.—A 100-bbl. well in Clinton sand in Coshocton County was the feature of the results in the Central Ohio district. Fair gas wells are reported in the Newark and Yorker Valley pools. Total completions number 17, with 12 gas wells, 3 oil wells and 2 dry holes.

Ashland County, Lake Township, Roy Stewart's No. 3 N. A. Stewart, Section 21, is a small gas well in the Berea sand, total depth 792 ft.

Cuyahoga County, Mayfield Village, Benedum & Trees' No. 1 Charles Scheuring, Lot 20, Tract 2, was making 1,500,000 cu. ft. of gas, open flow, after acid treatment in the Newburg sand at 2,861-2,906 ft.

Coshocton County, Pike Township, Pure Oil Co.'s No. 2 N. Ashcraft, Section 14, made 100 bbl. of oil the first 24 hours after a shot in Clinton sand at 3,127-78 ft.

Guernsey County, Washington Township, Jewell Co.'s No. 1 A. J. Brambaugh, Section 8, found only a small gas showing in the Berea sand and was abandoned at 1,371 ft.

Fairfield County, Pleasant Township, Section 9, City Natural Gas Works completed a small well in the Clinton sand at 2,183-2,200 ft. on the Julia Boyer tract.

Jackson County, Washington Township, Kelch Brothers' No. 1 M. R. Dye, Section 10, had 50,000 cu. ft. of gas from the Hamden sand at 825-35 ft.

Knox County, Butler Township, Ohio Fuel Gas Co.'s No. 1 H. W. Butler, Section 7, was dry in the Clinton at 2,962 ft. The hole was plugged back to the Berea at 800 ft. and completed as a gas well gaging 213,000 cu. ft. open flow. Jackson Township, H. W. Scott's No. 1 J. L. Bucy, Section 11, had a showing of oil in the Clinton, but was abandoned after testing, total depth 3,112 ft.

Licking County, Fallsbury Township, Emerald Petroleum Co.'s No. 5 Ira M. Cochran, Section 12, is an oil well making 50 bbl. the first 24 hours after the shot in Clinton sand at 2,998-3,048 ft. Saint Albans Co.'s No. 1 Ernest Barner, Section 12, had 40,000 cu. ft. of gas in the Berea at 814 ft. Licking Township, White & Vandergrift's No. 1 B. G. Dawes, Lot 20, was abandoned at 2,556 ft. after finding a small gas showing in the Clinton. Mary Ann Township, Buy Shrider's No. 1 Roxie Dugan, Section 24, gaged 2,300,000 cu. ft. in the Clinton at 2,629-64 ft. Newton Township, Allen Willey's No. 1 Alex Miller, fourth quarter, has an open flow of 1,400,000 cu. ft. of gas, Clinton sand 2,561-90 ft.

Meigs County, Rutland Township, McKnight & Co.'s No. 1 Edna Frame, Section 4, is a small Salt-sand gas well, total depth 870 ft.

Monroe County, Bethel Township, Simmons Co.'s No.

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JENSEN

BROTHERS
MANUFACTURING CO.
COFFEYVILLE, KANSAS, U. S. A.

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trying to get along with a car of the 1922 vintage (of course some people do, but look at them).

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THE OIL AND GAS JOURNAL
Circulation Dept. Tulsa, Okla.

1 Forest Simmons, Section 29, gaged 819,000 cu. ft. of gas from the lime at 1,362-68 ft.

Noble County, Wayne Township, in the Yorker Valley pool, Ohio Fuel Gas Co.'s No. 2 Muskingum Water Conservancy District, Section 33, is good for 1,340,000 cu. ft. of gas open flow from the Berea at 1,385-98 ft.

Perry County, Monroe Township, Thistle Oil Co.'s No. 2 Lincoln Ketcham, Section 22, is a gas well in the Clinton sand with an initial open flow of 900,000 cu. ft.; sand at 3,470-56 ft.

Lima Field

N. L. Stevens Co. completed an oil well in the Trenton lime in Henry County, Harrison County, on the Ibbie Sampsel tract in Section 36. The Trenton was topped at 1,675 ft. The oil showing at 1,715-18 ft. was shot with 40 qt. and later treated with acid giving the well a settled production of about 5 bbl. Same operators are now drilling an offset test in the SW¼ Section 36, on Sarah N. Walls land.

Morgan County, Meigsville Township, C. M. Foraker's No. 1 Charles Dearth, Section 22, is drilling in Ohio shale at 2,750 ft.

The Franklin County test in Madison Township, being drilled by Carl Blackstein and others on the E. J. Simms farm, is shut down.

Kentucky Fields

(Continued from Page 65)

Gus Morgan, moving in. Farmer and Chenault's No. 2 R. H. Ragsdale, dry hole at 1,403 ft. Farmer and Chenault's No. 4 Martin Weaver, moving in. Pleasant Ridge district: General Drilling Co.'s No. 3 Dode Taylor, dry hole at 1,381 ft.

Hancock County, Easton district: Crysler and Koontz' No. 4 H. H. Hendrick, moving in. Patesville district: Crysler and Koontz' No. 1 H. E. Shaw, spudding. Maceo district: Jack Cox and others' No. 1 Dr. M. L. Smith, dry hole through McClosky lime, total depth 1,224 ft. Chambers district: William Flesher and others' No. 1 Cal Young, dry hole, total depth 1,464 ft.

Henderson County, Spottsville district: Gus Baker and others' No. 1 W. D. Fulton, drilling deeper from 1,039 ft.

Logan County, 4 miles northwest of Russellville: Odel, Brown, and Richardson's No. 4 Wren estate, oil show from 1,340 to 1,350 ft.; may acidize; total depth 1,403 ft.; no estimate on production.

McLean County, South Livermore district: Cumberland Petroleum Co. and others' No. 7 D. and S. Butterfield, 136 bbl. in 12 hours from Jett sand, total depth 1,114 ft. Beach Grove district: H. H. Swartz and others' No. 1 L. S. Howard, moving in. Island district: South Penn Oil Co.'s No. 1 Alma Nall, rigging up.

Ohio County, Sunnydale district: J. W. Tuttle and others' No. 3 Lena Berry, 10-bbl. well in upper Pennsylvanian, total depth 115 ft. J. Tooms' No. 2 T. H. Smith, dry and abandoned at 120 ft. M. P. Evans and others' No. 1 C. E. Wimsatt, dry and abandoned at 130 ft.; No. 2 is moving in. Davidson Station district: Penn State Oil Co.'s No. 5 T. P. Fentress, drilling at 235 ft. Askin district: Thrasher and White's No. 1 F. S. Mathers, rigging up. Maxwell district: J. C. Miller, trustee, and others' No. 6 J. F. Smith, drilling at 500 ft.

Todd County, 3½ miles northeast of Elkton: A. A. Peard and others' No. 1 Randolph Hadden, 150,000 cu ft. of gas per day at 1,503-12 ft., total depth 1,675 ft.; completed.

EASTERN KENTUCKY

ASHLAND, Ky., Sept. 25.—One gas well completion and two dry holes are included in the report of operations in eastern Kentucky.

The Rockcastle Gas Co. reports the completion of its nineteenth well in the Rockcastle field, with an open flow of 150,000 cu. ft. of gas daily from shale, with a rock pressure of 400 lb. The well was drilled on the Vinson heirs' land on Buffalohorn in Martin County. The rig has been moved about 3,000 ft. southeast on the same tract for another well.

Thomas Wittmer abandoned a dry hole, No. 1, on the Crit Cox land on Billies Fork in the Big Sinking district of Lee County, but drilling depth was not reported.

Oklahoma Fields

(Continued from Page 73)

Barnsdall Oil Co.'s No. 8 Noble, NE SE SW Section 18-9-6, twin well, was rigging up rotary.

Pontotoc County

Patsy Oil Co.'s No. 3 Bates, SW NW SW Section 26-2n-7, an old well in the Fitts district, Pontotoc County, was deepened from 4,032 ft. to Wilcox sand at 4,746 ft., Oil Creek sand 4,890 ft., total depth 4,956 ft., and plugged back to 4,032 ft., and swabbed 12 bbl. of oil in 24 hours to recomplete.

Same company's No. 1 Bates, SE NW Section 26-2n-7, was building rig. Diamond's No. 1 Howard, NW SW SE Section 34-2n-7, set 10-in. casing at 154 ft. and was waiting on cement.

Okfuskee County

A 1,000,000-cu. ft. gas well was completed in the Weleetka district, Okfuskee County, at Wells' No. 2-A Fish, NE NW SE Section 25-10-11. It topped Booch sand at 2,130 ft. and was bottomed at 2,160 ft.

Berry's No. 1 Foreman, NW NE NE Section 1-13-10, topped Wilcox sand at 3,265 ft., total depth 3,331 ft., had a hole full of water and was abandoned.

One new test in Okfuskee County was reported at Titus' No. 1-A Replogle, C E½ SE NE Section 26-11-8, cellar and pits.

In Hughes County, Canavan's No. 1 Bowles, C S½ SW NE Section 5-8-10, had dug cellar and pits.

Lincoln County

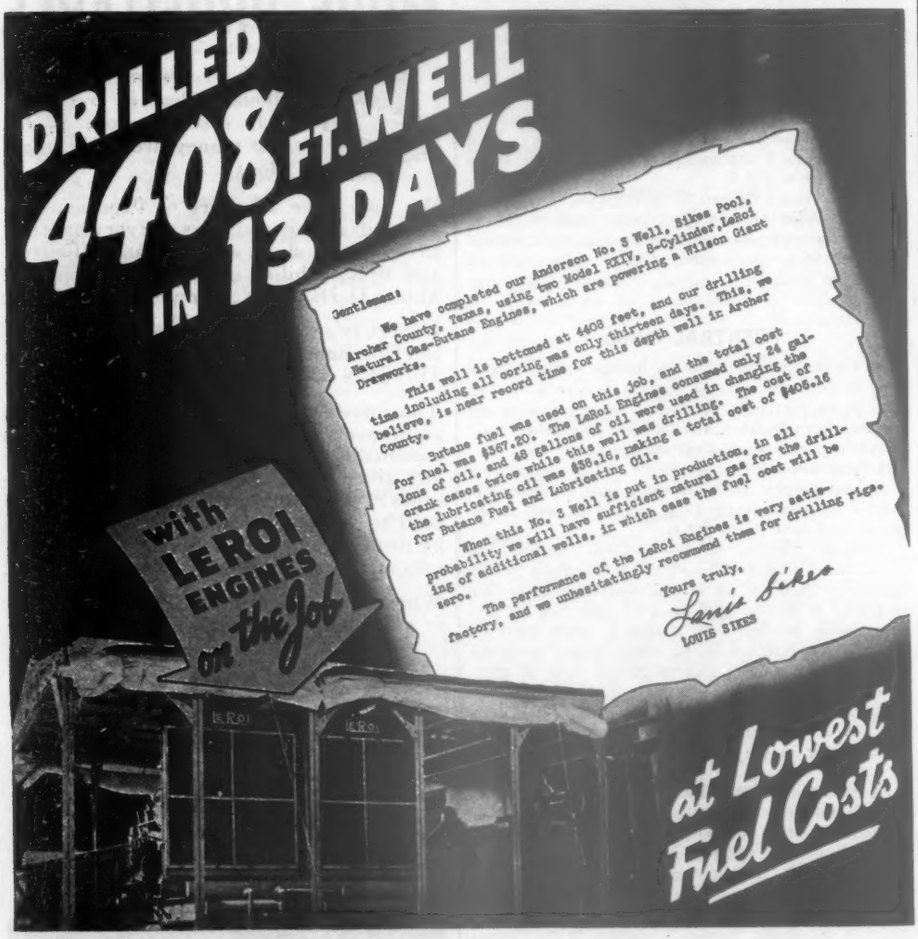
Wilcox Oil & Gas Co.'s No. 4 School Land, SE SW SE Section 16-14-8, Sac and Fox pool, Lincoln County, topped Prue sand at 2,985 ft., total depth 3,075 ft., was shot and flowed 50 bbl. of oil daily.

Same company's No. 2 Furry, NW NE NE Section 21-14-6, had sand at 3,025 ft., was bottomed at 3,114 ft. and flowed 54 bbl. of oil in 24 hours after a shot.

In the Skellyville area, Elbar Oil Corp.'s No. 1 Black, SW SW Section 32-16-6, was bottomed at 4,050 ft. in Sylvan shale, perforated casing at 3,790-3,855 ft., was shot and pumped 8 bbl. of oil daily.

Creek County

Chapman's No. 2 Allen, NW SE SE Section 35-15-10, Slick area, Creek County, had Wilcox sand at 3,136 ft.


DRILLED 4408 FT. WELL IN 13 DAYS
Gentlemen:
We have completed our Anderson No. 3 Well, Sikes Pool, Archer County, Texas, using two Model RXIV, 8-Cylinder LeRoi Natural Gas-Butane Engines, which are powering a Wilson Giant Drawworks.
This well is bottomed at 4408 feet, and our drilling time including all coring was only thirteen days. This, we believe, is near record time for this depth well in Archer County.
Butane fuel was used on this job, and the total cost for fuel was $367.20. The LeRoi Engines consumed only 24 gallons of oil, and 48 gallons of oil were used in changing the crank cases twice while this well was drilling. The cost of the lubricating oil was $38.16, making a total cost of $405.16 for Butane Fuel and Lubricating Oil.
When this No. 3 Well is put in production, in all probability we will have sufficient natural gas for the drilling of additional wells, in which case the fuel cost will be zero.
The performance of the LeRoi Engines is very satisfactory, and we unhesitatingly recommend them for drilling rigs.
Yours truly,
Louis Sikes
LOUIS SIKES
with LEROI ENGINES on the Job
at Lowest Fuel Costs

THE net of Louis Sikes' experience is that LeRoi Engines gave him unfailing service at lowest operating costs—This is exactly what hundreds of other operators are getting from LeRois — Know LeRoi better — A complete range of sizes is available for every type of oil field service. LeRoi Engines can be equipped to burn butane, gasoline or natural gas.

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total depth 3,163 ft., was shot and flowed 174 bbl. of oil in first 24 hours and 168 bbl. the next 24 hours.

Stuart's No. 1 Deese, NE SE NE Section 4-14-10, had a hole full of water in Wilcox sand at 3,250 ft., total depth, and was abandoned.

Martin's No. 2 Perryman, SW NE NW Section 28-14-10, pumped 2 bbl. of oil after a shot in Prue sand at 1,761-1,802 ft., total depth 1,805 ft., but was abandoned.

McAdams and others' No. 1 Jackson, SW NW Section 31-17-10, an old well in the Keystone district, was deepened from 2,715 ft. to lime at 2,725-34 ft., total depth, and flowed 62 bbl. of oil in 24 hours.

Central Commercial Oil Co.'s No. 1-A Kelly, NE SE SW Section 5-18-9, had a hole full of water in Wilcox sand at 3,048-65 ft., total depth, and was abandoned.

Curtis' No. 1-A Brown, SE NE SW Section 20-18-9, was dry and abandoned in Mississippi lime at 2,933-3,000 ft., total depth.

L. B. Jackson's No. 4 Grayson, SW SE SE Section 20-18-9, pumped 17 bbl. of oil in 24 hours from sand topped at 2,910 ft., total depth 2,925 ft.

Musellem's No. 1 Martin, NW SE Section 18-18-10, was an abandoned location.

Big Four Petroleum Co.'s No. 3 Rector, SE NW NE Section 24-19-7, Oilton area, found Red Fork sand at 2,614-46 ft., total depth 2,650 ft., was shot and flowed 65 bbl. of oil in 24 hours.

Hildebrand's No. 1-A Schumaker, SW NE SW Section 24-19-7, had Red Fork sand at 2,605-46 ft., total depth 2,651 ft., was shot and swabbed 25 bbl. of oil in 24 hours.

Pure Oil Co.'s No. 15 Richards, C W½ NW SE Section 33-19-7, an old well, was dry and abandoned after plugging back from 2,569 ft. to 2,419 ft.

Stekoll's No. 1 Davidson, SE NE NW Section 6-19-8, topped Bartlesville sand at 2,770 ft., total depth 2,832 ft., had a hole full of water and was abandoned.

New work in Creek County: J. E. Crosbie, Inc.'s No. 2 Mosquito, SE NW NE Section 20-17-9, location: Irelan's No. 5 Farlev, NE SE NE Section 13-17-10, twin well, spudded; McAdams' No. 2 McMahon B, SW NW SW Section 31-17-10, location; Big Four Petroleum Co.'s No. 4 Vance, SW NE NE Section 24-19-7, drilling below 100 ft.; Ellege's No. 1 Murrell, CEL NW SW Section 8-19-9, spudded and shut down.

Payne County

Texas Co.'s No. 3 Longan, C W½ NE NW Section 12-17-1e, in the Coyle pool, Payne County, found Wilcox sand at 4,822 ft., total depth 4,858 ft. in sand, and flowed 405 bbl. of oil in 6 hours, completed.

In Pawnee County: Johnson Oil Refining Co.'s No. 11 Findley, C E½ NW NW Section 27-20-9, twin well, was a location. Fuller's No. 1 School Land, NW NE Section 36-20-9, had dug cellar and pits.

Osage County

Snyder's No. 3 Soldani, SE SW Section 13-26-4, Olson area, Osage County, had sand at 3,160 ft., drillers' top, and was dry and abandoned at 3,250 ft.

Tide Water Associated Oil Co.'s No. 1 Soldani, NW SE Section 24-26-4, was dry and abandoned in Mississippi lime at 3,325-54 ft., total depth.

Carter County

Shell Oil Co.'s No. 44 Ward, SE NW NE NW Section 6-4s-3w, Healdton field, Carter County, was completed for 78 bbl. of oil daily at 1,180 ft., total depth.

Same company's No. 25 Horton, SE NW NW SE Section 6-4s-3w, was completed at 1,182 ft. for 19 bbl. of oil daily.

Southwestern Oklahoma

The largest producer completed in Oklahoma the past week was Johnson's No. 1 McKenna, SE NE SW Section 3-5-9w, Cement field, Caddo County. It had Rowe sand at 3,348-73 ft., total depth, set 7-in. casing at 3,344 ft., and made potential of 2,246 bbl. of oil.

Carl Carter's No. 12 Harmon, SW NW NE Section 27-1s-5w, Velma area, Stephens County, pumped 5 bbl. of oil daily from sand at 863-70 ft.

Three wells in Jackson County were completed. Ray's No. 2 Madine, SE NW NW Section 5-1s-19w, Tipton pool, pumped 60 bbl. of oil daily from granite wash at 2,514-72 ft., total depth. Gulf Oil Corp.'s No. 1 Barrett, NE NW SW Section 10-1n-20w, Altus area, had granite wash at 1,418 ft., total depth 1,583 ft. and pumped 70 bbl. of oil and 10 bbl. of water daily. Vaughn's No. 1-A Stokes, NW SW SW Section 11-1n-20w, an old well, was deepened from 1,420 ft. to 1,505 ft. and pumped 10 bbl. of oil daily.

New work: Winkler's No. 1 Parker, SE SW NE Section 16-1s-5w, Stephens County, rotary rig; Ray Stephens, Inc.'s No. 1 McGuire, NE SW Section 21-6-10w, Caddo County, cellar; Palmer's No. 1 Lindberg, SE SW NE Section 26-2n-11w, and Moore's No. 1 School Land, NE NW NE Section 35-2n-11w, locations in Comanche County; Gulf Oil Corp.'s No. 1 Inkelbarger, SW SW Section 3-1n-20w, Jackson County, set casing at 89 ft.; same company's No. 1 Enas, NW NE NE Section 16-1n-20w, building rig.

Gulf Coast Fields

(Continued from Page 85)

6,042 ft., 624 bbl., ¾-in. choke. Humble field: Wilson Oil Co.'s No. 8 Burt, 3,027 ft., 16 bbl., pumping.

Jackson County

Cordele field: Humble Oil & Refining Co.'s No. 1 Kubecka, perforated casing 2,708-17 ft., 260 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 3 Kubecka, 2,740 ft., 312 bbl., ¼-in. choke. S. W. Richardson's No. 1-A Drushel, sand 2,680-92 ft., 270 bbl., ¼-in. choke. West ranch field: Magnolia Petroleum Co.'s No. 15-A West, sand 5,523-35½ ft., 285 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 16-A West, sand 5,525-35 ft., 192 bbl., 7/64-in. choke. Magnolia Petroleum Co.'s No. 17-A West, sand 5,538-50 ft., 435 bbl., $\frac{7}{32}$-in. choke. Magnolia Petroleum Co.'s No. 18-A West, 5,117 ft., 220 bbl., ⅛-in. choke. Magnolia Petroleum Co.'s No. 20-A West, 5,143 ft., 67 bbl., 9/64-in. choke. Humble Oil & Refining Co.'s No. 1-B State-Lake Menefee, perforated casing 5,530-50 ft., 340 bbl., ¼-in. choke.

Jefferson County

South China field: Magnolia Petroleum Co.'s No. 1 Broussard, perforated casing 7,805-08 ft., 65 bbl., ¼-in. choke.

Liberty County

Hardin field: Humble Oil & Refining Co.'s No. 6-A Partlow, 7,608 ft., 120 bbl., ⅛-in. choke.

Wharton County

Pickett Ridge field: B. G. Roeder's No. 1 Wilbeck, sand 4,695-4,703 ft., 50 bbl., ⅛-in. choke. Texas Co.'s No. 37-B Pierce, sand 5,541-47 ft., 89 bbl., ⅛-in. choke.

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North and East Texas

By
D. H. STORMONT

Archer County Developments Continue to Be Outstanding

WICHITA FALLS, Tex., Sept. 25. — The Hull-Silk area of northern Archer County exceeded by far all other development in the North Texas district during the past week. This area, which includes Ligon extension and the Sikes pool, both northeast of the main body of the Hull-Silk pool, has become the most active district in North Texas outside of the K.M.A. pool. A quarter mile east of the most northeasterly production in the original Hull-Silk pool, C. B. Christie and others' No. 1 Dr. J. A. Little, SW cor. NE 80 acres of Block 2, H.&T.B. Survey, Abstract 811, cored from 4,301 to 4,321 ft. and recovered 1 ft. of oil sand in the bottom of the core. Operators were last reported setting casing before drilling deeper. Successful completion of this test would bring production within about ¾ mile of Louis Sikes' No. 2 Anderson, ½-mile south outpost producer for the Sikes pool.

Extending production westward from the Sikes pool, Bert Ligon's No. 1 O. T. Anderson, J. S. Brooks Survey, Abstract 17, approximately 1,000 ft. west of the western edge of the Sikes pool, flowed over the derrick after a shot of 20 qt. in the pay section from 4,398 to 4,414 ft. The operator was washing and cleaning out and will test the new well the first of this week. Ligon has staked location for No. 3 Anderson just south of the new producer and is preparing to move the rig from No. 1 to the recently staked No. 2 Anderson, just north of the new well. The field is now some 4 miles long and about a mile in width.

Wilbarger County, scene of a recent 3½-mile K.M.A. pool extension, has a prospective 1¼-mile extension farther into the county. Consolidated Oil Co., which completed the 3½-mile extension, is preparing to test No. 1-DD Waggoner, SE cor. Section 1, Block 5, H.&T.C. Survey, 1¼ miles northwest of the recent extension. This outpost tapped a new pay for the area when it drilled into saturation at 4,195 ft. and cored the section to 4,220 ft. A drill-stem test failed to show any recovery. The operator plans to acidize in an attempt to complete. The company has staked location for No. 2-CC Waggoner, 1,320 ft. north and west of No. 1-CC, discovery extension producer. The company's No. 1-N G. B. Ancell, NE cor. Section 35, Block 6, H.&T.C. Survey, a south offset to the discovery well, was drilling below 1,400 ft.

Montague County suffered a failure at one of its closely watched wildcats while a new drilling campaign was announced for the Bowers pool. The dry hole was Continental Oil Co. and S. J. Sackett's No. 1 Brown, 5 miles north of Bowie, and in Block 58, G. E. Nabours Survey. Total depth of 5,002 ft. was reached with only slight shows of oil found in the above formations. Electrical survey was being made to determine whether to abandon or attempt completion from one of the sections showing oil.

In the Bowers pool, Holmes & Thomas are reported to have staked the first of what may be four tests on a farmout of 250 acres acquired from Texas Co. on the east side of the field. The test is on the Reed land and is in the J. L. Graham Survey. Other tracts in the farmout include the Barnes, Puckett and McKnight surveys.

Two wildcats in Clay County centered attention as the week closed. Deepest test ever drilled in Clay County, the Youngblood & Foree and Ramsey Petroleum Corp.'s No. 1 R. F. Wynn, Block 2, G. Gowan Survey, Abstract 795, 5 miles east of Bellevue, in the eastern part of the county, will plug back to test shows in the upper horizons. This test was carried to a total depth of 6,072 ft., 7 ft. into the Ellenburger formation (Lower Ordovician) where an electrical survey was made of the hole. Operators plan to plug back to 5,516 ft. to test a section from 5,495 to 5,503 ft. Also in Clay County and about 4 miles south of the Burns pool, Shell Oil Co., Inc.'s No. 1 George Scaling, Block 87, J. H. Belcher Survey, was drilling ahead with no further shows reported. Total depth is 3,655 ft.

Wilbarger County received a new deep-lime producing horizon for an old shallow oil pool when Lido Oil Co.'s No. 21-C Waggoner, Section 52, Block 14, H.&T.C. Survey, 11 miles south of the town of Vernon, drilled plug from 7-in. casing at 3,635 ft. and the well showed from 30 to 40 bbl. of oil daily. Producing section is from 3,648 to 3,662 ft., total depth. The well was acidized with 12,000 gal. and flowed 58 bbl. of oil the first hour through casing. Testing was still under way as the week closed.

Disappointment was seen in Cottle County when Magnolia Petroleum Co.'s No. 1 Alice Green, closely watched wildcat in the John M. Grogan Survey, Abstract 1121, south of the town of Kirkland, was dry and abandoned at a total depth of 6,142 ft. without completion of its 7,500-ft. contract. It was abandoned in the Strawn series of Pennsylvanian with only one small show of oil reported at about 4,000 ft.

NORTH TEXAS COMPLETIONS

Archer County

H. Craig's No. 1 M. P. Andrews, 963 ft., dry. Bert L. Ligon's No. 3 Ray Carson, 1,312 ft., dry. Phillips Petroleum Co.'s No. 1 A. L. Moss, 4,305-32 ft., 2,450 bbl. White, Duncan & Dye's No. 5 W. P. Ferguson, 3,804-85 ft., 352 bbl.

Clay County

Morgan and others' No. 1 R. Brannon, 387 ft., dry. A. C. Parks' No. 1 R. E. Huff, 1,162 ft., dry.

Cooke County

S. S. Staley and others' No. 2 Voth, 1,544-1,605 ft., 120 bbl. Whitfield, Pearson & Grimes' No. 1 B. Voth B, 1,751-58 ft., 175 bbl. Whitfield, Pearson & Grimes' No. 2 B. Voth B, 1,745-50 ft., 180 bbl.

Foard County

Fain-McGaha and Shell Oil Co., Inc.'s No. 1 Johnson, perforated casing at 1,942-56 ft.; recompleted; initial production 2,600,000 cu. ft. of gas.

Wichita County

EC Oil Co.'s No. 2 A. W. Burnside A, 3,902-20 ft., 1,144 bbl. EC Oil Co.'s No. 12 Anna Mangold, 3,715-3,810 ft., 880 bbl. Forbess-Golden's No. 9 C. A. Mertens A, 1,261 ft., dry. J. G. Hammond's No. 1 J. C. Strauss, 3,751-3,870 ft., 1,632 bbl. Perkins & Cullum's No. 22 S. B. Burnett and others A, 1,580 ft., dry. Price and others' No. 1 F. P. Warren, 1,800 ft., dry. Trio Oil Co.'s No. 4 C. Birk, 3,900-4,034 ft., 1,104 bbl. Underwood Oil Co.'s No. 1 George Heiserman, 1,815 ft., dry.

Young County

Cable Oil Co.'s No. 8 J. Williams, 569-81½ ft., 10 bbl. Christie Brothers' No. 4 A. B. Street, 3,420-35 ft., 1,968 bbl. Cosden Petroleum Corp.'s No. 1 S. C. Shanafelt and others, 2,781-2,804 ft., 233 bbl. Pitz-West and Lion Oil & Refining Co.'s No. 1 G. W. McComas, 4,880 ft., dry. R. J. Watson's No. 2 Belknap Coal Co., 750 ft., dry. Z. Zweifel's No. 3 D. R. Sewell C, 3,882-4,031 ft., 680 bbl.

EASTERN TEXAS

DALLAS, Tex., Sept. 25.—Field work in the eastern Texas district has been on the increase for the past 2 or 3 weeks and continued at its steady pace during the week in review. There were five completions in the East Texas field, and seven in the East Central area, of which four were dry, and one was a gas well.

No new wildcat locations were announced during the week, but actual work was started on several important locations staked in previous weeks. Houston County's three closely watched wildcats, two of which are to be carried to 10,000 ft., are being started. In the M. Sallas Survey 2½ miles south of Percilla, J. C. Wynn and Shell Oil Co., Inc., have erected derrick for No. 1 G. E. Dorsey, projected 10,000-ft. lower Marine Trinity exploratory test. On the B. T. Masters tract about ½ mile northwest of the lone producer in the Grapeland area of Houston County, J. C. Cook and Shell Oil Co., Inc., are rigging up their 10,000-ft. test. Cook will drill the test to the Woodbine sand from which depth, if commercial production is not found, Shell will continue to the 10,000-ft. level. Two miles west of Grapeland, in the J.D.J. Percilla Survey, Grapeland Oil Co. is drilling at 50 ft. in its No. 1 Guice, projected Woodbine distillate test.

In Hunt County Raymond Hedge cemented surface casing at 100 ft. in No. 1 R. E. Hale, in the G. W. Wright Survey, ½ mile northwest of the town of Campbell. In Limestone County John R. Bunn's No. 1 F. Winmill, another wildcat announced 2 weeks ago, is coring below 2,399 ft. It is in the J. C. Neil Survey, about 2½ miles northwest of the town of Tehuacana.

A new Woodbine-sand wildcat is reported for the northeastern corner of Smith County. It is Beach Oil Co.'s No. 1 Rance Pullum, a 200-acre tract in the W. D. Meek Survey, northwest of the town of Winona. The Beach company holds a block of several thousand acres in the E. A. Carraway, J. S. Craft, P. Downey and other nearby surveys.

In the Chapel Hill district of Smith County it is reported that Shell Oil Co., Inc., has abandoned plans to unitize a large block for a deep Glen Rose test. The company has several large leases which expire in 1940 and it has for several months been attempting to assemble a large block for a deep test.

Southwest of Elkhart in Anderson County's Hemby gas area, Williamson's No. 1 Rogers, 1 mile south of the area's discovery well, is drilling in shale at 1,911 ft. Production was opened in this area last year when gas and distillate were found in the Woodbine sand by H. L. Parsons' No. 1 Hemby.

Flag Lake Pool

Proving to be a better well than first estimated and also tending to indicate the trend of more prolific production in the Flag Lake pool, Topaz Oil Co.'s No. 2 Trammel, recent extension across the Navarro River and into Navarro County, was gaged last week at 603 bbl. of oil daily through a ⅝-in. tubing choke. The well has the lowest gas-oil ratio of any in the field, and is practically free from water. The Woodbine sand was logged from 2,992 ft. to a total depth of 3,008 ft. and 5½-in. casing was cemented at 2,991 ft. The flow was under 310 lb. pressure on the tubing and 550 lb. on the casing. The well is the first producer on the Navarro County side of the Flag Lake field. The operator is rigging up No. 3 Trammel, 660 ft. south of No. 2. No. 1 Trammel was dry and abandoned several weeks ago.

Plans for a new wildcat in Red River County were seen when Flesh-Hootkins Oil Corp. commenced activity on No. 1 K. M. Bailey, staked 1,378 ft. from the south and east lines of a 202-acre tract in the John Robbins Survey, about 8 miles northwest of Clarksville and in the Bagwell community. Location is on a block of 5,000 acres assembled by Albert Wooley and Selle McAnear, both of Clarksville. Scheduled to spud by October 5, the well will be carried to 2,500 ft. for a test of the Trinity sections.

EAST TEXAS FIELD COMPLETIONS

(One-hour gages)

Gregg County—Longview Area

Stanolind Oil & Gas Co. and Tide Water Associated

Oil Co.'s No. 21 J. W. Aiken, 3,529-3,626 ft., 45 bbl. Tide Water Associated Oil Co.'s No. 22 Arch Davis, 3,549-3,649 ft., 72 bbl.

Gregg County—Kilgore Area

H. L. Carter's No. 10 Clary, 3,532-45 ft., 4 bbl. C. R. Starnes' No. 38-A A. Money, 3,590-91 ft., 60 bbl.

Rusk County—Joiner Area

Humble Oil & Refining Co.'s No. 14 J. H. Arnold, 3,750-60 ft., 75 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Camp County

H. S. Moss' No. 1 Blackstone estate, E. B. Davis Survey, 2 miles south of Pittsburg, dry and abandoned at 4,800 ft. after penetrating dry Woodbine sand topped at 4,200 ft.

Ellis County

Ellis County Drilling Co.'s No. 1 Trinity farms, P. D. Lowe Survey, 2 miles east of Midlothian, dry and abandoned at 563 ft. after topping dry sand at 562 ft.

Falls County

M. A. Hays' No. 1 Wooten, J. Powell Survey, 8 miles southeast of Lott, dry and abandoned at 1,831 ft. after topping dry Buda lime at 1,830 ft.

Houston County

Aloco Oil Co.'s No. 1 Weisinger, T. H. Barrow Survey, 7 miles southwest of Elkhart, dry and abandoned at 6,034 ft.; dry Woodbine sand was topped at 6,004 ft.; Pecan Gap at 4,337 ft., and the Austin chalk at 5,449 ft. In the Navarro Crossing field, Humble Oil & Refining Co.'s No. 4 Dailey-Taylor, J. G. Thompson Survey, topped oil sand at 5,842 ft. and flowed 84 bbl. daily through ⅛-in. choke. It was completed through perforations in 5½-in. casing landed at 5,847½ ft.; gas-oil ratio, 5,865 to 1.

Leon County

In the Leon County extension area of the Navarro Crossing field, Humble Oil & Refining Co.'s No. 1 George Haily, H. W. Sublet Survey, was completed for 242,000 cu. ft. of gas per hour on ⅝-in. choke through perforations in casing from 5,836-44 ft. and 5,818-28 ft. Casing pressure of 2,075 lb. and tubing pressure of 1,750 lb., gas-oil ratio of 48,400 to 1.

Navarro County

In the Navarro County extension area of the Flag Lake pool, Topaz Oil Co.'s No. 2 Trammel, A. C. Kyser Survey, topped Woodbine sand at 2,992 ft. and is bottomed at 3,008 ft.; flowed 603 bbl. daily through ⅝-in. choke, with tubing pressure of 310 lb. and casing pressure of 550 lb.; gas-oil ratio of 399 to 1.

West Texas Fields

(Continued from Page 71)

Crockett County

In the Crockett pool: Gilcrease Oil Co.'s No. 11-13 University, 1,325-1,450 ft., 468 bbl. Gilcrease Oil Co.'s No. 9-14 University, 1,330-1,400 ft., 103 bbl.; old well drilled deeper.

Dickens County

Andy Urban's No. 1 E. D. Byrd, dry and abandoned at 3,418 ft.

Ector County

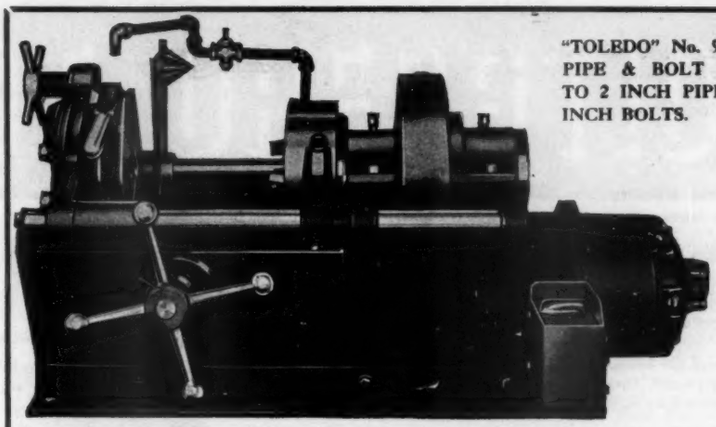
Foster pool: Indian Territory Illuminating Oil Co.'s No. 1 Johnson, 4,130-4,225 ft., 517 bbl. Stanolind Oil & Gas Co.'s No. 24-B Cowden, 4,010-4,190 ft., 797 bbl. Sunray Oil Co.'s No. 6 Johnson, 4,180-4,285 ft., 638 bbl. York & Harper's No. 9-D Foster, 4,182-4,325 ft., 1,580 bbl. North Cowden pool: Landreth Production Co.'s No. 3-A O. B. Holt, 4,235-4,305 ft., 926 bbl. Sinclair Prairie Oil Co.'s No. 7 Corrigan, 4,275-4,405 ft., 3,149 bbl. Jordan pool: Kewanee Oil Co. No. 7-A University, 3,370-3,648 ft., 1,325 bbl. Skelly Oil Co. and Atlantic Oil Co.'s No. 4-E University, 3,477-3,640 ft., 606 bbl.

Hockley County

Slaughter pool: Honolulu Oil Corp.'s No. 1-6-52 Mallett, 4,940-5,032 ft., 435 bbl. oil with 6 per cent water.

Pecos County

In the Taylor-Link area, Clark & Hudson's No. 1



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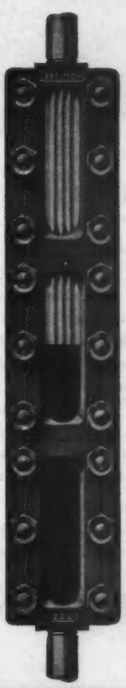

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University, 1,589-1,633 ft., 393 bbl. A wildcat, Lloyd, Penn & Hargraves' No. 1 H. E. Bonebrake, dry and abandoned at 1,727 ft. Payton pool: Pantex Oil Co. abandoned locations for its Nos. 2, 5, 6, and 8 State.

Loving County

Mason pool: Michigan Oil & Gas Co.'s No. 3 Kyle, 3,890-3,902 ft., 468 bbl.

Sutton County

George Irwin's No. 1 Miers, abandoned at 302 ft.

Upton County

McCamey pool: Continental Oil Co.'s No. 12 Burleson, 2,084-2,170 ft., 2,140 bbl.; old well drilled deeper. British American Oil Producing Co.'s No. 2 Robbins, 2,273-2,343 ft., 34 bbl., (old well drilled deeper). Gulf Oil Corp.'s No. 6 Hughes, 2,129-2,215 ft., 247 bbl., (old well drilled deeper). Gulf Oil Corp.'s No. 4 Rogers, 2,355-2,475 ft., 44 bbl. Shell Oil Co., Inc.'s No. 44 Bowen, 2,138-2,230 ft., 279 bbl.

Ward County

McQueen & Clevenger's No. 3 Sealy, 3,055-74 ft., 456 bbl. Reno Oil Co.'s No. 8 Hardage-Wilson, 2,328-2,460 ft., 72 bbl. Stanolind Oil & Gas Co.'s No. 5 Brown, 2,312-75 ft., 154 bbl.

Winkler County

In the Keystone pool, J. T. Barnes' No. 5 Crume, 3,345-3,425 ft., 455 bbl. J. T. Barnes' No. 6 Crume, temporarily abandoned location. Murko Royalty Co.'s No. 10-B Walton, 2,895-3,068 ft., 270 bbl.

Yoakum County

Wasson-Bennett field: Don Danvers' No. 2 Lloyd Dowell, 4,925-5,132 ft., 883 bbl. Devonian Oil Co.'s No. 7 Hodges, 4,995-5,225 ft., 654 bbl. Eastland Oil Co.'s No. 2 Candler-Skelly, 4,960-5,208 ft., 1,032 bbl. Magnolia Petroleum Oil Co.'s No. 4 Kendrick, 4,970-5,112 ft., 650 bbl. Shell Oil Co., Inc.'s No. 1 W. M. Johnson, 4,900-5,235 ft., 650 bbl. Skelly Oil Co.'s No. 2 Rhodes, 4,915-5,130 ft., 659 bbl. Texas Pacific Coal & Oil Co.'s No. 23 Bennett, 5,058-5,238 ft., 1,603 bbl.

PANHANDLE COMPLETIONS

(24-hour gages)

Carson County

Hagy, Harrington & Marsh's No. 1 W. H. Walker, 2,525-2,677 ft., 39,862,000 cu. ft. of gas. Magnolia Petroleum Co.'s No. 60 fee No. 244, 2,988-3,004 ft., 461 bbl.

Gray County

Magnolia Petroleum Co.'s No. 4 W. C. Archer, 3,140-3,217 ft., 123 bbl. Magnolia Petroleum Co.'s No. 1 J. S. Morse C, 2,615-55 ft., 255 bbl. Stanolind Oil & Gas Co.'s No. 4 T. B. Cobb A, 3,273-3,314 ft., 369 bbl. Texwell Oil Co.'s No. 3 O. N. Frashier, 3,130-3,515 ft., 50 bbl.

Hutchinson County

J. E. Crosby, Inc.'s No. 34 H. W. Pitts, 2,900-50 ft., 496 bbl. McIlroy Oil Co.'s No. 8 W. B. Haile, 3,022-71 ft., 815 bbl. Mid-States Oil Corp.'s No. 28 J. A. Whittenburg A, 2,551-2,892 ft., 524 bbl. Phillips Petroleum Co.'s No. 10 Gary, 3,230-3,310 ft., 132 bbl. Phillips Petroleum Co.'s No. 9 W. B. Haile, 3,025-3,105 ft., 386 bbl. Texilvania Petroleum Co.'s No. 8 Harvey Sisters, 2,955-3,024 ft., 393 bbl.

Moore County

R. A. Burnett's No. 1 Loula B. Powell, 3,040-3,375 ft., 16,282,000 cu. ft. of gas. Panhandle Eastern Pipe Line Co.'s No. 1-34 M. F. Brown, 2,610-2,842 ft., 53,200,000 cu. ft. of gas.

Roberts County

E. J. Dunigan, Jr.'s No. 1 P. C. Ledrick, dry and abandoned at total depth of 5,428 ft.

Wheeler County

El Bar Corp.'s No. 12 J. M. Noel, 2,414-30 ft., 237 bbl. Skelly Oil Co.'s No. 2 May E, 2,212-51 ft., 100 bbl.

Morley Reserve Project

CALGARY, Alta.—A Calgary syndicate has more than 18,000 acres leased in Township 25-5w5, in the southeast portion of the Stoney Indian Reserve near Morley, and is planning a series of wells to definitely test the acreage. Several companies carried on drilling operations in this area between 1926 and 1930, numerous gas and oil shows having been encountered.

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SHEAR-RELIEF VALVE

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Sept. 23.—Effective September 19, the aggregate allowable for Turner Valley was made 23,000 bbl. a day, a 1,000-bbl. daily increase. Home Oil Co.'s No. 2 Millarville, in North Turner Valley, is still the largest producer, with 716 bbl.; other large wells being Royal Canadian Oil Co.'s No. 2, with 545 bbl.; Vulcan Brown Petroleums' No. 1, 517 bbl., and Royalite Oil Co.'s No. 30, 486 bbl.

Turner Valley Completions

In Section 17-18-2w5, Southwest Turner Valley, Extension Royalties' No. 2, LSD 11, finished 471 ft. in the limestone at 8,254 ft., made 3,107 bbl. on restricted flow through 2-in. choke, and has been given a temporary allowable of 468 bbl. pending final government tests. Anglo-Canadian Oil Co.'s No. 6, LSD 3, same section, finished at 8,228 ft. after getting the Madison at 7,797 ft., produced 2,122 bbl. on a 24-hour open-flow test. It has been given a 417-bbl. temporary allowable.

In West Central Turner Valley, Calwin Royalties' No. 1, LSD 1, Section 5-19-2w5, finished in the lime at 7,257 ft., showed potential of 478 bbl. through 1-in. choke. Allowable has been set at 253 bbl. Gas-oil ratio was 2,941 ft. and bottom-hole pressure 1,070 lb.

Tests in the Lime

In Section 25-19-3w5, West-Central Turner Valley, Argus Royalties' No. 1, LSD 14, got the Madison limestone high at 6,909 ft. and cemented casing at 6,917 ft.

In Section 32-19-2w5 Royalite Oil Co.'s No. 42, LSD 4, got the Madison at 8,022 ft. and is below 8,116 ft. after cementing casing at 8,032 ft.

In Section 29-18-2w4, Royal Canadian Oil Co.'s No. 3, LSD 12, got the Madison limestone below 8,345 ft. and cemented at 8,379 ft.

West Central Area

In Section 13-19-3w5 Arrow's No. 1, LSD 16, is spudding.

In Section 7-19-2w5, Anglo-Canadian Oil Co.'s No. 8, LSD 11, is in the lower Blairmore formation below 7,023 ft.

In Section 6-19-2w5 East Crest Oil Co.'s No. 5, LSD 9, is rigging. Kamalta's No. 1, LSD 1, is working on cellar.

North Turner Valley

In Section 15-20-3w5 Anglo-Phillips' No. 1, LSD 14, is working derrick. Anglo-Phillips' No. 2 is spotted in LSD 13, same section. Royalite Oil Co.'s No. 47, LSD 15, same section, is working on cellar, and will spud early in October.

Deep Well Abandoned

The western limits of the South Turney Valley crude area have been pretty well defined by Okalta Oil Co.'s No. 6, LSD 3. Section 30-18-2w5, which has just been abandoned. The test, the deepest ever drilled in Canada, was carried to the lower porous horizon of the Madison limestone at 10,209 ft., where salt water, along with crude oil, was found.

Farther south, Scottish Petroleums' No. 1, LSD 16, Section 19-18-2w5, got the Madison at 8,530 ft., some 1,201 ft. higher than the Okalta well, but on deepening into the lime the lower zone at 9,001 ft. developed salt water. It has been recemented back and has set packer and is circulating oil through the tubing to clean out the hole for a test of the upper porous horizon. Location was ¼ mile south and ¾ mile east of the Okalta well.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status—
Union Oil, No. 21 Squires, Santa Maria, Santa Bar.	26- 9-34	3,560	sd. sh. drlg.
Union Oil, No. 19 Newlove, Santa Maria, Santa Bar.	24- 9-34	3,325	will deepen
Sun-Bell Oil, No. 1 Sun, Lompoc, Santa Barbara	29- 8-34	3,196	sd. sh. drlg.
Petrol Corp., No. 5-21 Magenheimer, Gato R., S. B.	9- 2-32	4,057	hd. sh. drlg.
Richfield Oil Corp., No. 3 Marcos, Sisquoc, S. Bar.	29- 6-29	2,500	dry; abd.
Sunset Oil, No. 1 Shore, Carpinteria, Santa Barbara	32- 4-25	2,435	redrlg. 1,740
Coronet Oil, No. 1 Crown, Ojai, Ventura	17- 4-21	2,298	pmp. wtr.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	2,299	sd. sh. drlg.
Section 20 Oil, No. 21, Sespe, Ventura	20- 5-19	4,157	cmtd. 3,642
Renard Oil Corp., No. 1, Sespe, Ventura	6- 4-19	307	sd. sh. drlg.
Speik Oil, No. 2 Hill, Sespe, Ventura	33- 5-19	3,966	idle
Galveston Oil, No. 1 Basola, Bardsdale, Ventura	5- 3-19	3,139	bailing
Bolsa Chica Oil, No. 5 Snow, Piru, Ventura	4- 4-18	2,975	sd. sh. drlg.
Continental Oil, No. 12 Grubb, San Miguelito, Ven.	24- 3-24	4,751	sd. sh. drlg.
C. C. M. Oil, No. 5 W.O.G., Padre Canyon, Ventura	23- 3-24	6,415	O.S. drlg.
C. C. M. Oil, No. 29-B Hobson, Rincon, Ventura	16- 3-24	4,280	O.S. drlg.
General Pet. Corp., No. 16 Barnard, Ven. Ave., V.	28- 3-23	7,958	recmtd. 7,860
Cal. Alliance Pet., No. 1 Hartman, Ven. Ave., Ven.	22- 3-23	6,370	sd. sh. drlg.
Lloyd Corp., No. 3 Dabney, Ventura Ave., Ventura	23- 3-23	7,936	sd. sh. drlg.
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	7,462	sd. sh. drlg.
Belridge Oil, No. 1-27, North Belridge, Kern	1-28-20	5,386	sd. sh. drlg.
Belridge Oil, No. 28-15, North Belridge, Kern	28-27-20	3,394	sd. sh. drlg.
Belridge Oil, No. 26-39, North Belridge, Kern	26-27-20	8,275	redrlg. 7,093
Tide Water A. O., No. 24, North Belridge, Kern	21-27-20	6,698	sd. sh. drlg.
O'Reily, Frances, No. 2 Seale, Edison, Kern	5-30-29	3,790	hd. sd. drlg.
Petrex, Inc., No. 2 Metro, Edison, Kern	6-30-29	4,206	sd. sh. drlg.
Grizzly Bear Oil, No. 4 Kelley, Round Mt., Kern	6-28-28	1,468	sd. sh. drlg.
Vedder Pet., No. 1 Larkin, Round Mountain, Kern	12-28-28	1,886	O.S. drlg.
Dick, W. T., No. 3 Kern, Kern River, Kern	34-28-28	480	O.S. drlg.
Dick, W. T., No. 4 Kern, Kern River, Kern	34-28-28	485	O.S. drlg.
Dick, W. T., No. 5 Kern, Kern River, Kern	34-28-28	470	O.S. drlg.
Helm & Smith, No. 14 Kern, Kern River, Kern	34-28-28	440	O.S. drlg.
D. B. K. Co., No. 9 Kern, Kern River, Kern	34-28-28	346	pmp. 7 b.d.
Hill and associates, No. 1-A West, Mount Poso, Kern	35-26-28	481	sd. sh. drlg.
Crestmont Oil, No. 1 McNeil, Mount Poso, Kern	26-26-27	2,651	sd. sh. drlg.
Dilamar Oil, No. 3 Quinn, Jasmin, Kern	12-25-27	2,902	pmp. dry
Hogan Pet., No. 4 Peters, Mountain View, Kern	5-31-29	5,592	P.B. 5,495
Texas, No. 2 Jewett, Arvin, Kern	16-31-29	7,750	P.B. 6,085
Standard Oil, No. 5 Jewett, Arvin, Kern	16-31-29	4,384	sd. sh. drlg.
Western Gulf Oil, No. 43-B KCL, Fruitvale, Kern	22-29-27	3,826	completing
Meridian Pet. Corp., No. 2 Deep Test, Fruit., Kern	23-29-27	7,570	P.B. 7,560
General Pet. Corp., No. 1 Mattei, Lerdo, Kern	19-28-27	2,681	sd. sh. drlg.
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	23-29-24	8,090	sd. sh. drlg.
Union Oil, No. 41-34, KCL, Rio Bravo, Kern	34-28-25	8,780	fish D.P.
Superior Oil, No. 1 Burner, Rio Bravo, Kern	27-28-25	11,415	flow 3,200 b.d.
Standard Oil, No. 1 Ross, Greeley, Kern	20-29-26	10,440	redrlg. 10,348
Standard Oil, No. 11-20, KCL, Greeley, Kern	18-29-26	7,370	sd. sh. drlg.
Standard Oil, No. 11-21, KCL, Greeley, Kern	18-29-26	2,683	sd. sh. drlg.
Standard Oil, No. 12-5, KCL, NW Greeley, Kern	7-29-26	8,690	gr. sd. drlg.
General Pet. Corp., No. 1 Sullivan, NE Gly., Kern	12-29-26	9,897	hd. sd. drlg.
Continental Oil, No. 2-D, KCL, Bellevue, Kern	14-30-26	13,265	hd. sh. drlg.
Shell Oil, No. 72-25-A, KCL, Ten Section, Kern	25-30-25	7,280	sd. sh. drlg.
Tide Water A. O., No. 46-7-E, KCL, Strand, Kern	7-30-26	5,591	sd. sh. drlg.
Ohio Oil, No. 14-E, KCL, Canal, Kern	14-30-25	8,235	completing
Shell Oil, No. 32-14-A, KCL, Canal, Kern	14-30-25	7,880	sd. sh. drlg.
Richfield Oil Corp., No. 12-33-A, KCL, Tupman, K.	33-30-25	9,331	will P.B.
Standard Oil, No. 21-1, KCL, Tupman, Kern	19-30-25	9,880	pmp. 148 b.d.
Richfield Oil Corp., No. 67-4-B, KCL, Cole's Lv., K.	4-31-25	8,360	sd. sh. drlg.
Richfield Oil Corp., No. 76-4-B, KCL, Cole's Lv., K.	4-31-25	2,288	sd. sh. drlg.
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	7,753	sd. sh. drlg.
Standard Oil, No. 20-3, KCL, Cole's Levee, Kern	9-31-25	6,680	sd. sh. drlg.
Standard Oil, No. 20-4, KCL, Cole's Levee, Kern	9-31-25	6,794	sd. sh. drlg.
Ohio Oil, No. 4-F, KCL, Cole's Levee, Kern	11-31-25	6,670	sd. sh. drlg.
Ohio Oil, No. 5-F, KCL, Cole's Levee, Kern	10-31-25	3,683	sd. sh. drlg.
Tide Water A. O., No. 81, KCL, Cole's Levee, Kern	14-31-25	9,829	cleaning out
Union Oil, No. 58-11, KCL, Cole's Levee, Kern	11-31-25	7,867	sd. sh. drlg.
Gibson Oil, No. 6 O'Brien, Midway-Sunset, Kern	6-11-23	2,940	cleaning out
C. C. M. Oil, No. 12-6 fee, Midway-Sunset, Kern	6-32-23	2,140	bailed dry
Baker & Sonne, No. 1 Leyse, Midway-Sunset, Kern	20-32-23	2,030	sd. sh. drlg.
Quality Oil, No. 6 W.P., Midway-Sunset, Kern	27-32-23	1,975	bailing
Texas, No. 35 Sunset, Midway-Sunset, Kern	32-32-24	3,207	redrlg. 2,860
Merritt-Annex Oil, No. 8 Fried, Midway-Sunset, K.	25-12-24	2,350	sd. sh. drlg.
General Pet. Corp., No. 1 B.V.A., Midway-Sunset, K.	1-31-24	8,980	hd. sh. drlg.
Shell Oil, No. 45-9 B.V.A., Midway-Sunset, Kern	9-32-25	3,981	sd. sh. drlg.
National Oil, No. 33 Sunset, Midway-Sunset, Kern	35-32-23	2,409	C.P. 1,834
Standard Oil, No. 3-5-C fee, Midway-Sunset, Kern	5-32-23	2,497	bailing
Richfield Oil Corp., No. 81-36 B.V.A., B. V. L., Kern	36-31-25	5,570	sd. sh. drlg.
Richfield Oil Corp., No. 1 KCL, Wheeler R., Kern	28-11-20	11,168	will P.B.
Continental Oil, No. 1-F, KCL, San Emidio, Kern	5-10-21	8,568	hd. sh. drlg.
Bannow, L. E., No. 1 Irwin, San Emidio, Kern	15-10-23	2,040	reaming
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	10,970	hd. sh. drlg.
French, R. C., No. 1 Royal, San Emidio, Kern	5-10-21	718	fishing
Par Pet., No. 1 Line, Antelope Valley, Kern	32-25-17	1,650	br. sh. drlg.
Richfield Oil Corp., No. 1 Gulf, Cantua, Fresno	4-17-15	9,000	will abd.
Italo Pet. Corp., No. 5 Penn, West Coalinga, Fres.	1-20-14	1,220	idle
Section 30 Oil, No. 6 Coalinga, W. Coalinga, Fres.	30-19-15	965	sd. sh. drlg.
Wilcox, J. F., No. 7 Coalinga, W. Coalinga, Fresno	11-20-14	491	idle
Bandini Pet., No. 48-18 Webb, NE Coalinga, Fresno	18-19-16	8,093	flow 550 b.d.
Standard Oil, No. 73-19-B fee, NE Coalinga, Fresno	19-19-16	8,270	completing
Amerada Pet. Corp., No. 5-17 S.P.L., NE coal., Fres.	17-19-16	7,920	sd. sh. drlg.
Wilshire Annex Oil, No. 1 Kearns, C Coal., Fresno	30-19-16	7,596	sd. sh. drlg.
Lytle, R. S., Agt., No. 42-7-F, SE Coalinga, Fresno	7-20-16	6,490	sd. sh. drlg.
Lytle, R. S., Agt., No. 86-7-F, SE Coalinga, Fresno	7-20-16	8,327	O.S. drlg.
Lytle, R. S., Agt., No. 28-18-F, SE Coalinga, Fresno	18-20-16	5,860	sd. sh. drlg.
Texas, No. 3 Exeter fee, SE Coalinga, Fresno	6-20-16	5,996	sd. sh. drlg.
Standard Oil, No. 62-13-C fee, SE Coalinga, Fresno	13-20-15	5,972	sd. sh. drlg.
Standard Oil, No. 86-13-C fee, SE Coalinga, Fresno	13-20-15	6,990	hd. sh. drlg.
Superior Oil, No. 5 fee, SE Coalinga, Fresno	7-20-16	6,877	hd. sh. drlg.
Superior Oil, No. 3 Cagle, SE Coalinga, Fresno	6-20-16	6,740	sd. sh. drlg.
Parkford, E. A., No. 1 Valley, SE Coalinga, Fresno	24-20-15	7,550	hd. sh. drlg.
Superior Oil, No. 4 Huffman, Kettleman N., Fresno	29-21-17	8,526	will deepen
Graphic Oil, No. 1 Taylor, Dudley Ridge, Kings	34-23-20	4,458	dry; abd.
Newton, S. M., No. 1 Stafford, Panorama, San L. O.	18-31-21	4,880	sd. sh. drlg.
Epco, Inc., No. 1 Epco, San Miguel, San Luis Obis.	27-25-13	6,090	sd. sh. drlg.
Standard Oil, No. 1 Corcoran, Fair. Knowles, Yolo	29- 9- 1	3,698	shows gas
Texas, No. 3 Eureka, Eureka, Humboldt	21- 3- 1	5,067	completing
Silver Creek Oil, No. 1 Los Pinos, San Benito	11-17-11	257	sd. sh. drlg.
Utilities Pet., No. 1, Rough and Ready Is., S. Joaq.	7- 1- 6	3,160	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status—
O'Oonnell, J. E., No. 73 Lomita, Torrance, Los An.	30- 4-13	5,271	P.B. 3,520
Union Oil, No. 12 Carson, Dominguez, Los Angeles	33- 3-13	8,032	cmtd. 7,403
Union Oil, No. 71 Callender, Dominguez, Los Ange.	32- 3-13	6,850	sd. sh. drlg.
Union Oil, No. 72 Callender, Dominguez, Los Ange.	29- 3-13	6,681	sd. sh. drlg.
Shell Oil, No. 33-A Reyes, Dominguez, Los Angeles	34- 3-13	4,265	flow 440 b.d.
Barnsdall Oil, No. 1 Darling, Rosecrans, Los Ange.	20- 3-13	8,230	O.S. drlg.
King & Weymouth, No. 3 Averill, Rosecrans, L. A.	20- 3-13	7,846	dry; abd.
South Cal. Pet. Corp., No. 1 Slabaugh, Rose., L. A.	19- 3-13	6,890	redrlg. 6,794
Basin Oil, No. 1 Beloil, Potrero, Los Angeles	28- 2-14	5,680	sd. sh. drlg.
Basin Oil, No. 5 Basin, Potrero, Los Angeles	34- 2-14	2,941	test showing
Vulcan Oil, No. 1 Corner, Playa Del Rey, Los Ange.	22- 2-15	7,330	sd. sh. drlg.
Tide Water A. O., No. 13 Porter, Aliso Can., L. A.	27- 3-16	1,320	sd. sh. drlg.
Tide Water A. O., No. 11 Fernando, Aliso C., L. A.	27- 3-16	2,895	hd. sd. drlg.
Redwood Oil, No. 1-A Mitchell, Mint Canyon, L. A.	22- 4-15	251	sd. sh. drlg.
Barnsdall Oil, No. 6 R.S.F., Newhall, Los Angeles	27- 4-17	7,058	O.S. drlg.
Standard Oil, No. 7 Braun, Montebello, Los Angeles	2- 2-12	7,645	completing
Standard Oil, No. 8 Braun, Montebello, Los Angeles	3- 2-12	7,400	cleaning out
Standard Oil, No. 8 Whitehead, Montebello, Los An.	3- 2-12	7,700	tested wet
Union Oil, No. 5 Wilcox, Montebello, Los Angeles	11- 2-12	7,470	fish tester
Union Oil, No. 7 Wilcox, Montebello, Los Angeles	11- 2-12	7,410	sd. sh. drlg.
Union Oil, No. 8 Howard & Smith, Montebello, L. A.	11- 2-12	7,618	flow 560 b.d.
Union Oil, No. 10 Howard & Smith, Montebe., L. A.	11- 2-12	2,683	sd. sh. drlg.
Union Oil, No. 7 Paul Howard, Montebello, Los A.	11- 2-12	4,672	sd. sh. drlg.
Albertson Oil, No. 1 Schnakenburg, Monte., L. A.	3- 2-12	6,580	sd. sh. drlg.
Bush Oil, No. 2 Olds, Montebello, Los Angeles	3- 2-12	7,670	completing
Bush Oil, No. 1 Zanetti, Montebello, Los Angeles	3- 2-12	2,996	sd. sh. drlg.
B-A Oil Prod., No. 1 Parmalee, Montebello, Los A.	11- 2-12	7,630	flow 510 b.d.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe-line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

B-A Oil Prod., No. 1 H. & S., Montebello, Los An.	11-	2-12	7,430	O.S. drlg.
B-A Oil Prod., No. 2 H. & S., Montebello, Los An.	11-	2-12	7,090	sd. sh. drlg.
B-A Oil Prod., No. 1 Ryder, Montebello, Los Angel.	11-	2-12	6,190	sd. sh. drlg.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles	11-	2-12	4,996	sd. sh. drlg.
Crestline Oil, No. 1 Beverly, Montebello, Los Angel.	11-	2-12	3,086	sd. sh. drlg.
Dutch Oil, No. 1 Scheinik, Montebello, Los Angeles	3-	2-12	4,171	sd. sh. drlg.
East Mont. Oil, No. 1 Rissinger, Montebello, L. A.	12-	2-12	5,460	sd. sh. drlg.
East Mont. Oil, No. 2 Rissinger, Montebello, L. A.	12-	2-12	7,520	completing
Graham-Loftus Oil Corp., No. 1 South, Mont., L. A.	11-	2-12	7,638	flow 580 b.d.
Hathaway Oil, No. 2 Dore, Montebello, Los Angeles	11-	2-12	6,605	fish D.P
Larson Drlg., No. 3 Van Deusen, Montebello, L. A.	11-	2-12	167	sd. sh. drlg
Mabee, J. E., No. 36 Monterey, Montebello, Los A.	3-	2-12	5,274	sd. sh. drlg.
McVicar & Rood, No. 4 Mäinz, Montebello, Los Ang.	2-	2-12	7,520	sd. sh. drlg.
McKeon, John, No. 1 Travis, Montebello, Los Ang.	11-	2-12	6,990	sd. sh. drlg.
Montebello, Res. Oil, No. 1 Reservoir, Monte., L. A.	2-	2-12	7,335	redrlg. 6,490
Mono Oil, No. 1 Foreman, Montebello, Los Angeles	2-	2-12	3,962	sd. sh. drlg.
Montebello Oil, No. 1 Nordon, Montebello, Los An.	3-	2-12	3,161	sd. sh. drlg.
Mission Oil Corp., No. 1 Marcotte, Montebello, L. A.	11-	2-12	7,670	flow 1,150 b.o.
Pacific-Ameri. Oil, No. 1 Groen, Montebello, L. A.	11-	2-12	3,980	sd. sh. drlg.
Pueblo Oil, No. 1 Bird, Montebello, Los Angeles	11-	2-12	7,554	O.S. drlg.
Pongratz Pet., No. 2 Newmark, Montebello, L. A	3-	2-12	4,096	sd. sh. drlg.
Fullerton Oil, No. 2 Trustee, Montebello, Los Ang.	12-	2-12	5,987	sd. sh. drlg.
Fullerton Oil, No. 2 Scott, Montebello, Los Angeles	1-	2-12	3,471	sd. sh. drlg.
Ring Oil, No. 1 Paden, Montebello, Los Angeles	3-	2-12	7,630	flow 900 b.d.
Sunset Oil, No. 1 Howell, Montebello, Los Angeles	11-	2-12	6,076	sd. sh. drlg.
Star Pet., No. 1 Community, Montebello, Los Ange.	11-	2-12	7,090	sd. sh. drlg.
Texas, No. 1 Wilcox, Montebello, Los Angeles	3-	2-12	4,851	sd. sh. drlg.
Crail Bros., No. 1 Cowan, Montebello, Los Angeles	1-	2-12	7,635	flow 1,080 b.d.
Traders Oil, No. 2 Center, Montebello, Los Angeles	2-	2-12	3,168	sd. sh. drlg.
United Mont. Oil, No. 1 Lot, Montebello, Los Ange.	11-	2-12	6,931	redrlg. 6,905
United Mont. Oil, No. 2 Lot, Montebello, Los Ange.	11-	2-12	4,385	sd. sh. drlg.
United Mont. Oil, No. 3 Lot, Montebello, Los Ange.	11-	2-12	288	sd. sh. drlg.
Wood-Callahan Oil, No. 1 Todd, Montebello, Los An.	2-	2-12	7,630	flow 640 b.d.
Wood-Callahan Oil, No. 1 Thill, Montebello, Los An.	11-	2-12	3,387	sd. sh. drlg.
York Oil, No. 1 Long, Montebello, Los Angeles	3-	2-12	5,464	sd. sh. drlg.
York Oil, No. 6 Mulholland, Montebello, Los Angel.	2-	2-12	3,466	sd. sh. drlg.
York Oil, No. 1 Lehman, Montebello, Los Angeles	10-	2-12	5,782	sd. sh. drlg.
Kelso, F. W., No. 1 Brea, Puente Hills, Los Angeles	13-	2-10	2,304	sd. sh. drlg.
Hilldon Oil, No. 3 Amebco, Long Beach, Los Ange.	13-	4-13	5,270	sd. sh. drlg.
Dormax Oil, No. 1 Signal, Long Beach, Los Angeles	30-	4-12	7,480	sd. sh. drlg.
Rolling Hills Pet., No. 1 Weston, Palos Verdes, L. A.	27-	4-14	6,240	sd. sh. drlg.
Traders Oil, No. 1 Wagner, Richfield, Los Angeles	22-	3- 9	3,650	balling
Southwest Expl., No. 22 State, Hunt. Beach, Orange	10-	6-11	3,860	sd. sh. drlg.
Sherin Oil, No. 4 Farnsworth, Hunt. Beach, Orange	34-	5-11	3,600	cleaning out
Island View Oil, No. 1 Day, Hunting. Beach, Orange	36-	5-11	4,327	flow 295 b.d.

OKLAHOMA

Week Ending September 23

NORTHERN OKLAHOMA

Atoka County

Gilstett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 728 ft.

Caddo County

Sinclair Prairie Oil Co. No. 1 Gorman, SW NW NW Sec. 1-16-13w. S. heavy oil; cd. 6,442-49 ft.; N.S.; drlg. 6,508 ft.

Canadian County

W. R. Ramsey's No. 1 Mansfield, C NW NE Sec. 16-14-9w. Drlg. 5,369 ft.

Cleveland County

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; swbd. 125 B.O. in 12 hrs.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.; swbd. 250 B.F. in 24 hrs.; 10% B.S.

Sinclair-Prairie No. 1 Ward, SE SE SE Sec. 30-7-1, Hntn. 6,185 ft.; Vla. 6,408 ft.; open 30 min. at 6,800 ft., rec. S. W.; P.B. to 6,782 ft.; W.O.C.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; drlg. 898 ft.

Creek County

Sunray Oil Co. No. 1 Harris, SW SW NE Sec. 30-14-7. T.D. 2,927 ft.; est. 370,000 cu. ft. gas.

Garfield County

Kerlyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 5,042 ft.; S. D.O.

Grant County

Magnolia Pet. Co.'s No. 1 Margay-Johnson, SW SW NE Sec. 29-25-8w. Drlg. 2,315 ft.

Greer County

C. S. Amos No. 1 Banks, C NW SW Sec. 21-7-22w. Drlg. 1,450 ft.

Hughes County

Carter Oil No. 1 Hamilton, C W½ NE SW Sec. 33-4-9. T.D. 4,235 ft., S.D.

Jackson County

English Drlg. Co.'s No. 1 Aetna Life, SE SE NE Sec. 26-3-20w. Drlg. 375 ft.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Kay County

Cells & Rutherford No. 1 Wolfenbarger, Sec. 9-27-4. T.D. 1,072 ft.; D.&A.

W. C. McBride No. 1-A State, SW NE NE Sec. 13-29-2w. T.D. 3,863 ft.; drlg. plug.

E. W. Mariand No. 1 Crook, SW SW SE Sec. 21-26-3. Drlg. 1,450 ft.

Kingfisher County

Anderson-Prichard No. 1 Geis, C NE SW Sec. 15-18-9w. Lytn. 6,450-6,510 ft.; T.D. 7,360 ft.; opened and flwd. mud and gas 5 min. and died.

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

Bollen-Dillard & Roberts No. 1 Holcomb, NE NE SW Sec. 25-7-19w. Drlg. 1,285 ft.

Hagerling et al No. 1 Boseman, SE SE NE Sec. 14-5-18w. Drlg. 1,286 ft.

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. S.D. 1,432 ft.; repairs.

Lewis & Myers' No. 1 Rhyne, SE SE SE Sec. 29-7-17w. Drlg. 973 ft.

Lincoln County

Black Gold No. 1 Locquchment, NE NE NE Sec. 28-14-6. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

R. L. Kemp's No. 1-A Burke, NE SW NE Sec. 20-17-6. Drlg. 2,526 ft.

W. A. Villines No. 1 Marshall, NW NE NE Sec. 28-15-4. T.D. 5,080 ft.; S.D.

McIntosh County

W. B. Pine No. 1 Marlin, C N½ SE NE Sec. 14-11-16. Drlg. 2,065 ft.

Scruggs et al's No. 1 Lanning, SE SW SW Sec. 19-12-15. Drlg. 2,605 ft.

Noble County

J. E. Crosbie No. 1 Robbins, SW SW NW Sec. 6-22-2w. S.O. 3,261-64 ft.; Miss. 4,842 ft.; 1st Wlx. 5,176 ft.; drlg. 5,245 ft.

Franks & Ellis' No. 1 Stranka, SW SW NW Sec. 35-24-1w. Drlg. 935 ft.

Oklahoma County

Hall & Briscoe No. 1 Thompson, SW SW NE Sec. 28-13-1. S.O. 4,803-27 ft.; drlg. 5,718 ft.

Osage County

Midco Oil Co.'s No. 1 Osage, NE NE SW Sec. 17-22-8. T.D. 2,495 ft.; U.R. 7-in.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. Drlg. 3,250 ft.

Payne County

Blackwell O. & G.'s No. 1 Davis, SE SE SE Sec. 24-18-1. Drlg. 4,727 ft.

C. R. Hoagland No. 1 Stanolind, SE SE SW Sec. 27-18-4. Miss. 3,800 ft.; T.D. 3,905 ft.; D.P. stk.

Pontotoc County

Grisso Royalty and Eason Oil No. 1 Haskins, SE SW SW Sec. 27-5-4. T.D. 2,639 ft.; P. 50 B.O. in 20 hrs.; comp.

Smith & Bruson No. 1 Kann, SE SE NE Sec. 13-3-4. Drlg. 709 ft.

Simpson-Roodhouse's No. 1 McKay, SW SW NE Sec. 1-2-7. C.&P.

Pottawatomie County

F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. T.D. 4,411 ft.; S.D.

E. P. Kerr's No. 1 Harrington, NW NW NW Sec. 24-9-4. R.U.S.T. 4,535 ft.

Neustadt et al No. 1 Howeth, NE SE NE Sec. 14-6-4. Sd. and S.S.O. 3,455-60 ft.; S.D. 5,060 ft.

Sequoyah County

Thompson Bros. No. 1 Ruby, NW NW NE Sec. 30-12-22, Hntn. 1,451 ft.; T.D 1,912 ft. (cor.); S.D.

Seminole County

Flynn et al No. 1 Work, NE SE SE Sec 19-8-7. Wlx. 4,276-92 ft.; set pipe.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. T.D. 14,479 ft.; cmtd. off fish; to set whpstk. and drill by.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,250 ft.; S.D.

SOUTHERN OKLAHOMA

Choctaw County

Letchfield & Kirkaly No. 1 Schuester, SW SE SW Sec. 13-6s-14. S.D. 1,165 ft.; repairs.

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,634 ft.; W.O.C.

Cotton County

Dean Bros.' No. 1 Emery, NE NE NE Sec. 30-3s-13w. S.D.O. 2,503 ft.

Jefferson County

Fred Land et al's No. 1 Barrett, NE SE SE Sec. 14-6s-6w. Sd. 1,852 ft., S.O.; D. P. stk. at T.D. 1,890 ft.

Love County

Neff et al's No. 1 Brahma, NW NW SW Sec. 35-6s-2e. Drlg. 1,393 ft.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; S.D.

Johnson et al No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Drlg. 2,010 ft.

Tillman County

Oil Inv. No. 2 Hammell, NE NW NW Sec. 6-5s-15w. O.W.D.D.; O.T.D. 2,830 ft.; T.D. 3,353 ft.; S.D.

KANSAS

Week Ending September 23 (Descriptions are East unless marked otherwise)

Barton County

W. H. Brinn No. 1 Dirks, CWL SW NE Sec. 31-18-15w. Lans. 3,280 ft.; pay 3,581 ft.; T.D. 3,585 ft.; S. 18 B.O. in 17 hrs.

Crown Pet. Co. No. 1 Marchand, NE SE NW Sec. 13-20-11w. Drlg. 2,910 ft.

R. E. Day et al No. 1 Feltes, SE SE NE Sec. 14-16-12w. O.W.D.D. O.T.D. 1,875 ft.; T.D. 3,574 ft.; S. 13 B.O.P.H.; T.A.

Butler County

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,660 ft.

Cromwell & Lewis No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

Crown Pet.'s No. 1 Manny, NW NW NE Sec. 33-28-5. T.D. 2,779 ft. in Bart.; P.B. 2,775 ft.; est. 75 B.O.P.D.; comp.

Marylyn Oil et al No. 1-A Hoard, SW NE NE Sec. 28-29-8. C.O. 1,380 ft.

Simpson & Noble et al's No. 1 Marsh, NW NW SW Sec. 23-28-6. Miss. 2,810 ft.; S.O.; drlg. 3,040 ft.

Coffey County

Hollett's No. 1 Butler, SE SW SE Sec. 28-20-15. Drlg. 607 ft.

Sackrider et al No. 1 Allen, SE NE SE Sec. 13-21-15. Miss. 1,885 ft.; Wlx. 1,920 ft.; T.D. 2,207 ft.; S.D.O.

Cowley County

J. R. Lowell et al No. 1 Olsen, NE NE SE Sec. 13-35-7. S.S.O. 2,834-38 ft.; drlg. 3,195 ft.

Wakefield & Blair No. 1 Starkey, SE SE NE Sec. 32-30-4. Arb. 3,316 ft.; W.I.H. at T.D. 3,322 ft.; D.&A.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. Hntn. 2,807 ft.; Vla. 3,048-55 ft.; S.S.O. 3,156-65 ft.; C.O. 3,170 ft.

Douglas County

Three Star Oil Co. No. 1 Griffith, C NW SE Sec. 4-14-8e. Miss. 1,525 ft.; Wlx. 2,046 ft.; H.F.W.; Arb. 2,100-16 ft., T. D.; D.&A.

Franklin County

Security O. & G. Co. No. 1 Teall, C SW NW Sec. 11-17-17. Drlg. 935 ft.

Greenwood County

A. A. Hinze et al's No. 1 Hester, NW SW NE Sec. 1-22-12. Drlg. 510 ft.

Jefferson County

Continental Oil's No. 1 Berridge, NW NW SW Sec. 8-9-17. S.D. 1,635 ft.

C. L. Sheedy et al's No. 1 O'Neill, SE SW NW Sec. 34-8-19. Drlg. 1,100 ft.

Kingman County

Skelly Oil Co. No. 1 Miller, CSL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U. S.T.

McPherson County

H. C. Bennett No. 1 Peterson, CSL NW NW Sec. 32-20-5w. T.D. 3,365 ft.; S. 156 B.O. in 6 hrs.

Miami County

Dave Judd No. 1 Waite, CNL SW SE Sec. 4-15-25. S.D. 732 ft.

Joe Wellinbring et al's No. 1 Ramey, NW NW SW Sec. 17-15-23. Gas sd. 600 ft.; T.D. 915 ft.; P.B. 610 ft.; 200,000 cu. ft. gas; comp.

Montgomery County

Lerke & Whortan No. 1 Clemmer, C SW SW Sec. 21-32-15. Arb. 1,530 ft.; set 5-in. csg.; W.O.C.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; S.G. in sh. 1,618-24 ft.; S.D. 1,650 ft.

Pratt County

Skelly Oil Co. No. 1 Royse, C SW Sec. 9-28-11w. Lans. 3,604 ft.; Vla. 4,248-49 ft.; T.D. 4,268 ft.; S.S.O.; 502,000 cu. ft. gas.

Rice County

Fred Jones et al No. 1 Benhke, NW SW NW Sec. 25-18-10w. Drlg. 1,575 ft.

Phoenix Drlg. No. 1 Linville, SW SW SE Sec. 4-20-10w. Simp. 3,375 ft.; Arb. 3,388 ft.; H.F.W. 3,396 ft.; S.D. 3,400 ft.

Vickers Pet. Co. No. 1-A Rodenberg, CNL NW¼ Sec. 8-18-10w. Lans. 2,930 ft.; Arb. 3,265-81 ft., T.D. N.S.

Rooks County

Broadview Oil No. 1 Baxter, NE SW SW Sec. 35-8-16w. Lans. 3,180 ft.; S.S.O.; T.D. 3,263 ft.; P. 89 B.O. in 7 hrs.; pot. 269 B.O.P.D.

Saline County

Jess Cling et al's No. 1 Erickson (O.W.D.D.), NE NE NE Sec. 28-16-3w. O.T.D. 1,800 ft.; Vla. 3,330-75 ft., T.D.; N.S.

Sedgwick County

Cameron & Spencer No. 1 Fields, NE NE NW Sec. 4-28-2. H.C. 2,516 ft.; S.D. 2,670 ft.

Parks et al's No. 1 Fisher, NW NW NE Sec. 25-26-1. Drlg. 2,860 ft.

Sherman County

Goodland Ind. Gas Co. No. 1 Wilcoxson, SE NW Sec. 27-8s-39w. T.D. 1,100 ft.; est. 25,000 cu. ft. gas.

Stafford County

Chas. Barker's No. 1 Gregg, SW NW SE Sec. 35-25-12. S.G. 1,642-44 ft., T.D.; ga. 500,000 cu. ft.; comp.

Continental Oil Co. No. 1 Keller, SE SE SE Sec. 15-24-13w. S.O. 3,733-43 ft., cd. 4,111-16 ft. and rec. 5 ft. sat.; T.D. 4,116 ft.; 3,900 ft. O.I.H.

Woodson County

Bird, Hanley & Sheedy No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.

MISSOURI

Adair County

Mason Oil Co. No. 1 McGonigle, CNL SE NW Sec. 20-63-13w. S.O. 1,002-73 ft., 1,116-63 ft.; St. Peter 1,238 ft.; Arb. 1,431 ft.; pulled 5-in. and P.B. to 1,200 ft.; W.O.C.

Andrew County

Davis Bros. et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. S.O. in Bart. 965 ft.; T.D. 2,007 ft.; rng. 6-in.

Jones & Hyde No. 1 Holt, SE NW NE Sec. 34-60-35w. Bart. 1,003 ft.; H.F.W. 2,065 ft.; T.D. 2,200 ft.; D.&A.

Bates County

Monarch Roy.'s No. 1 Lee, C SW SE Sec. 11-39-30w. S.O. 834-36 ft.; drlg. 1,400 ft.

Bollinger County

Delmund Oil No. 1 Cooper, SE SE SE Sec. 14-29-9e. S.D. 1,450 ft.

Buchanan County

Miller et al's No. 1 Carrough, C SE SE Sec. 24-57-35w. Rig.

Butler County

Coastal Pet. et al No. 1 Pierson, SW NE NW Sec. 27-22-6e. S.D. 149 ft. (cor.)

Charlton County

L. E. Mummert et al's No. 1 Rickert, NW NE SE Sec. 26-54-20w. Loc.

Clay County

Missouri Valley G. & O. Co.'s No. 1 Breen, SW SW NE Sec. 7-51-33w. T.D. 617 ft.; est. 750,000 cu. ft. gas; comp.
Missouri Valley G. & O. Co.'s No. 1 Brown, SW NE SW Sec. 7-51-33w. T.D. 554 ft.; 2,500,000 cu. ft. gas; comp.
Pabelo Dev. Co.'s No. 1 Bartlett, SE NW NE Sec. 34-52-32w. Drlg. 494 ft.
Pabelo Dev. Co.'s No. 5-A Robb, NW NW SE Sec. 36-52-32. T.D. 600 ft., S.G.; S.D.O.

Clinton County

C. E. King et al's No. 1 Vanderau, SE NE SW Sec. 18-55-31w. T.D. 605 ft.; est. 1,904,000 cu. ft. gas.

Daviess County

H. H. Francis' No. 1 Louis, C E½ NE SE Sec. 29-59-27w. Drlg. 250 ft.

DeKalb County

Geo. W. Moore No. 1 McQuate, NE SW SW Sec. 11-57n-31w. Miss. 1,075 ft.; S.D. csg. 1,500 ft.

Harrison County

H. V. Elwell et al's No. 1 Maple, NE SW SE Sec. 3-62-26w. Drlg. 1,351 ft.

Holt County

Brin & Nathan No. 1 Decker, C NW NW Sec. 1-61-38w. Drlg. below 793 ft.
Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. Spd. and S.D.

Jackson County

Hulse & Christopher's No. 1 Wiston, NE NW SE Sec. 22-49-32w. S.D. 510 ft. to D.D.

Livingston County

Davis Bros. No. 1 Minning, SE SE NW Sec. 22-58-23w. Hntn. 783 ft.; T.D. 965 ft., S.D.
J. E. Linton's No. 1 Chillicothe, C S½ NE SE Sec. 15-56-23w. Loc.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.
Geo. W. Moore No. 1 Moss, NW SW SE Sec. 30-65-24w. Hntn. 1,273 ft.; T.D. 1,869 ft.; to pull 6-in.

Putnam County

Morrow et al's No. 1 Cooley, SE SE NW Sec. 33-64-17w. Drlg. 585 ft.

Randolph County

A. A. Ash et al's No. 1 Alexander, C SE Sec. 14-55-13w. Loc.

Ray County

Loomis-Jordan No. 1 Macey, NE SW NW Sec. 10-53-27w. S.O. 330 ft., T.D.; set csg.

Schuyler County

T. E. Baldwin No. 1 May Johnson, NW NE NE Sec. 21-65-15w. Drlg. 266 ft.

Shelby County

Wright & Turner No. 1 Turner, C NW NW Sec. 27-59n-9w (wildcat). S.D. 650 ft.

St. Charles County

Brooks et al's No. 1 Stewart, SE SE SE Sec. 4-48-2e. Drlg. 350 ft.

ARIZONA

Apache County

Franco-Arizona Oil Co.'s No. 1 Government, SE NE Sec. 14-14n-26e. Spd. and R.U.R.
Rincon Drlg. Synd. No. 1 State, NE¼ Sec. 28-13n-27e. T.D. 500 ft.; abd.

Cochise County

Funk Benevolent Corp. No. 1 fee, SE NE Sec. 27-13s-30e. Cg. 6,657 ft.

Maricopa County

Ben Case No. 1 Johnson, NE¼ Sec. 12-1s-5w. Loc.
Legco Drlg. Co. No. 1 Battles, SW SE Sec. 25-1n-4w. Loc.
Sam F. Reaves No. 1 Fuqua, NW NW NE Sec. 34-1n-1w, S.D. 4,117 ft.
Sam F. Reaves' No. 1 King, SW SE Sec. 33-1n-4w. Loc.
Peoples O. & G. Co. No. 1 Gardner, SE¼ Sec. 2-1n-3e. S.D. 500 ft.

Pima County

R. W. Schenck No. 1 Boyce, Sec. 22-19s-17e. S.D. 350 ft.

Yavapai County

Ari-Copa Drlg. & Mining Co. No. 1 Puntenney, SW¼ Sec. 27-18n-2w. S.D.
Chino Valley Oil Dev. Co. No. 1 State, Sec. 20-18n-2w. Drlg. 900 ft. (last report).

Yuma County

Chas. T. Lark, Sec. 7-7s-14w. Loc.
Yuma Valley O. & G. Co. No. 1 Musgrove, N½ SW NW NE Sec. 11-11s-25w Shows of oil between 480 and 1,640 ft.; drlg. 1,980 ft.

ARKANSAS

Clark County

W. S. King's No. 1 H. Ross, 640 ft. S, 359 ft. W, NE cor. S½ SW Sec. 3-10-21. Fsg. slip. hd. sh. 1,460 ft.
W. P. Wilson's No. 1 Hamilton & Mathews, C W½ NE NE Sec. 31-10s-20w. Run 10-in. csg. 41 ft.; T. Nac. 358 ft.; S.S.O.; reported S.O.&G. 437 ft.; S.D. 1,098 ft., sdy. sh.; repair rig.

Columbia County

McAlester Fuel Co.'s No. 1 E. D. Harris et al, C SW NW Sec. 14-17-19. S.O. cuttings 4,590-4,600 ft.; drlg. sh.&sd. 5,793 ft.
Marine Oil Co. No. 1 Jones, 656 ft. N, 663 ft. W, SE cor. NE NW Sec. 21-17-20. T. main por. 7,556 ft.; set 6-in. csg. 7,650 ft.; T.D. 7,650 ft.; completing.
Normandie Oil Co.'s No. 2 Dees, C SE SE Sec. 24-17-20. Drlg. 2,250 ft.
Shell Oil Co., Inc.'s No. 1 W. F. Merritt, C NE SW Sec. 15-17-20. 13⅜-in. csg. 133 ft.; 9⅝-in. csg. 2,187 ft.; drlg. rd.&gr. sh. 6,210 ft.
Southwood Oil Co.'s No. 1-C A. L. Poindexter, C N½ SW SE Sec. 23-17-20. Drlg. 1,940 ft.
Standard Oil No. 1 J. A. Foster, Sec. 19-17s-19w. Set 6-in. csg. 7,453 ft.; set 370 ft. of 4½-in. at 7,594 ft.; cut and pulled 6-in. csg. below 3,995 ft.; washing over csg. 4,350 ft.
Standard Oil Co. of La.'s No. 1 Gunnels, 660 ft. SW cor. SE NW Sec. 19-17-19. Drlg. L. 3,195 ft.
Standard Oil Co. of La.'s No. 1 D. H. Lewis, C NW NE Sec. 19-17-19. Drlg. sh.&bldrs. 2,100 ft.
Standard Oil Co. of La. No. 1 Merritt et al Unit, C SW SE Sec. 16-17-20. Set 9⅝-in. csg. 2,212 ft.; set 6-in. csg. 7,590 ft.; drlg. L. 7,664 ft.
Tide Water Seaboard's No. 1 Clark, C SE NE Sec. 16-18-19. R.U.
G. H. Vaughn and Deep Rock Oil Corp.'s No. 1 J. Jones unit, C SW NE Sec. 21-17-20. R.U.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor. NE NE Sec. 35-14-3e. Drlg. sdy. L. 3,462 ft.; T. sdy. L. 3,458 ft.; S.G.

Faulkner County

Cato Oil Co., Inc.'s No. 1 R. R. Harrell, 330 ft. SE cor. SE SW Sec. 35-4n-12w. Set 10-in. csg. 210 ft.; 7-in. csg. 2,260 ft.; sd. 2,367-70 ft.; flwd. est. 40,000 cu. ft. gas daily; S.I.C.P. 50 lb.; T.D. 2,498 ft.; S.D.; hd. bl. limy sh.; est. 1,000 ft. wtr. in hole; S.I.; G.P. 50 lb.

Howard County

Wm. James No. 1 I. M. Brooks, 115 ft. W, 462 ft. N, SE cor. NW NW Sec. 2-8s-27w. Pulled 10¾-in. csg.; rmd. to bttm.; drld. to 350 ft. and abd.; jnkd.; skidded 15 ft. south and began new hole.
Jos. Rogers et al No. 1 Dierks Lbr. Co., C SW SW Sec. 7-8s-28w. R.U.C.T.

Independence County

C. P. Daniels' No. 1 Kelly Myatt, 1,085 ft. S, 50 ft. E, NW cor. SE Sec. 16-12n-5w. T. gas sd. 598 ft.; T.D. 603 ft.; no csg. in hole; W.O.

Lafayette County

East Texas Ref. Co. et al's No. 1-B Bell, C N½ SE NW Sec. 19-16-23. T.D. 3,605 ft.; set 5½-in. csg. 3,439 ft.; S.W. 3,470 ft.; P.B. 3,440 ft.; perf. csg. 2,305-12 ft.; T. Tokio 2,307 ft.; swbg.; to test 3,440 ft.
East Tex. Ref. Co. et al No. 2 Buchanan, 330 ft. N, 660 ft. E, SW cor. NE NW Sec. 19-16-23. Set 5½-in. csg. 3,386 ft.; swbd. dry; acd. with 3,000 gal.; flwd. 239 B.O.; ½-in. ck. and went dead; S.I.; C.P. 100 lb.; acd. with 2,000 gal.; swbg.; to test 3,474 ft.; W.O.S.R.
East Tex. Ref. Co. et al's No. 1 Geo. McGee, C N½ NE NE Sec. 23-16-24. Swb. and flwd. 19-gr. oil; sqzd. perf. 3,658 ft.; W.O.C.; (reported comp.).
Standard Oil Co. of La.'s No. 1 Allen Foster, 570 ft. N, 650 ft. E. SW cor. NW SW Sec. 7-16-22. Set 9⅝-in. csg. 2,073 ft.; drlg. sh.&strks. L. 4,585 ft.

Little River County

C. & M. Drlg. Co.'s No. 1 Strawn, NW cor. SE SW Sec. 17-10-32. Recmtd. csg. 1,590 ft.; tstd. S.W.; S.O. 1,763-70 ft.; T.D. 1,810 ft.; W.O.C.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson townsite, Sec. 18-4n-9w. Reported S.O. 1,400-50 ft.; hole clean; ran survey to 2,573 ft.; P.B. 1,470 ft.; set 4½-in. csg. 1,390 ft.; reset 4½-in. csg. 1,540 ft.; P.B. to test sd. 1,950 ft.; shot with 40 qt. nitro and bailed dry; pulled 4½-in. csg. and shot with 46 qt. nitro 1,390-1,440 ft.; S.S.G.&S.W.; repair rig; 1,453 ft.
J. F. Russell's No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. Reported S.O. 1,384 ft. and 2,111 ft.; W.O. 2,111 ft.
W. L. Tedford No. 1 Anderson, Sec. 7-4n-9w. Set 6¼-in. csg. 1,025 ft.; reseating 6-in. csg. to S.O.W. 1,125 ft.; U.R. 6¼-in. csg. 1,175 ft.; reported S. O. 940 ft.; drlg. 1,180 ft.

Miller County

W. C. Feazel's No. 1 Norton, 454 ft. N, 350 ft. W, SE cor. Sec. 18-20-27. M.I. drk.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney, Sec. 36-15-16. Stk. 5½-in. 2,777 ft.; set 966 ft. at 2,777 ft.; T.D. 2,832 ft.; shot with nitro 2,575-78 ft.; pmpd. est. 50 B.F.P.D.; S.S.O.; O.T.D. 2,832 ft.; rpd. csg. 2,570-78 ft.; rpd. csg. 2,306-10 ft.; pmpd. est. 600 bbl. S.W. per day; W.O.
Lion Oil Ref. Co. No. 1 B. Annie, SE NE Sec. 29-15-17. D.S.T. 5,656-66 ft.; 13 min.; rec. 35 ft. drlg. fluid and S. S.O.; 7-in. csg. 5,641 ft.; U.R. 5,641-56 ft.; bailed down 4,700 ft.; P.B. rathole 5,660 ft.; swbg. S.W. through 2½-in. tbg.; O.T.D. 5,666 ft.
A. B. Turner et al No. 1 Cook Est., C NW SW Sec. 27-15-18. 10-in. 210 ft.; T. Nacth. 1,588 ft.; D.S.T. 1,588-1,613 ft.; 2½ min.; ½-in. cks. T.&B.; est. 25,000,000 cu. ft. gas daily; R.P. 500 lb.; D.S.T. 1,614-18 ft.; 10 min.; rec. 500 ft. oil, 17-gr. and 200 ft. S.W.; W. O. 1,618 ft.

Pulaski County

Coker Oil Corp.'s No. 1 Huffman, 330 ft. NW cor. NW SW SW Sec. 29-4n-11w. 8¾-in. csg. 206 ft.; S.D. 1,710 ft.

Union County—Schuler

Lion Oil Ref. Co.'s No. 2 Calloway, 330 ft. SE cor. SE SE Sec. 13-18-18. Drlg. rd.&gr. sh. 5,422 ft.
Lion Oil Ref. Co.'s No. 7-B Morgan, 330 ft. NW cor. W½ SE Sec. 18-18-17. M.I. rig.

Union County—Other

Arkansas Southern Oil Corp. No. 3-A Simmons, NW cor. NE NW Sec. 15-18-13. Set 4-in. csg. 2,510 ft.; W.O.C.
E. G. Bradham's No. 4-A H. C. McKinney, 306 ft. N, 660 ft. E, SW cor. SW SW Sec. 30-17-15. Drlg. 1,828 ft.
Crestrock Oil Co.'s No. 1 E. Riley, 330 ft. S, 250 ft. W, NE cor. NW SW Sec. 9-16-15. S.O. 2,370-80 ft. and 2,390-2,400 ft.; 6-in. csg. 2,415 ft.; T.D. 2,415 ft.; prep. perf. csg. 2,570-74 ft.; T.D. 2,415 ft.
Delta Drlg. Co.'s No. 1 C. T. Grace, C SE SE Sec. 31-12-14. R.U.
H. L. Halverson No. 1 Moore, C SE SE Sec. 1-17s-14w. Drlg. sdy. sh. 907 ft.
Lion Oil Ref. Co. No. 9-A Hays, Sec. 4-16-15. O.W.W.O.; O.T.D. 7,255 ft.; P.B. 2,325 ft.; rpd. csg. 2,276-80 ft.; S.O.; pmpd. est. 700 B.P.D. S.W.; S.S.O.; arng. recmt. 2,325 ft.; W.O.C.
Joseph E. Moore's No. 1 Union Sawmill Co., 330 ft. N and W, SE cor. NE NE Sec. 24-17-14. Set 10-in. 74 ft.; S.D. 905 ft.; wtr.

MISSISSIPPI

Claiborne County

Claiborne Co. Dev. Co. No. 1 Ruth Hayden, S½ SE Sec. 55-11n-2e. O.W.WO.; O.T.D. 2,949 ft.; S.D. 3,272 ft., sh.

Copiah County

Triangle Drlg. Co.'s No. 1 W. W. Broome, 153 ft. SW cor. SW SE Sec. 1-10n-8e. Spd.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, Sec. 13-7s-10w. T.D. 2,700 ft.; T.A.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. T.D. 1,140 ft.; 10¾-in. csg. 86 ft.

Lafayette County

Adam O. & G. Co. No. 1 Z. E. Lewellen, 990 ft. WL, 330 ft. NL, NE NW NW Sec. 9-10s-1w. Drlg. chert 3,511 ft.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen, Sec. 8-7s-9e. Drlg. chert 1,125 ft.

Simpson County

Cleve Love No. 1 N. E. Gardner, SW cor. SW NE Sec. 1-10n-17w. S.D. 3,150 ft., Wlx.

Yazoo County

Union Prod. Co.'s No. 1 S. E. Perry et al, C NW NW Sec. 24-10-3. Loc.
Union Prod. Co.'s No. 1 Stevens, C NW NW Sec. 13-10-3. R.U.

LOUISIANA

N. LOUISIANA WILDCATS

Bossier Parish

Gulf Ref. Co.'s No. 20 C. B. Hodges, 3,131 ft. N, 1,388 ft. W, SE cor. Sec. 24-16-12. Cd. ool. L. 4,411-23 ft. S.G. and dist.; tried to blow out; mixing mud to kill and D.S.T.
Premier Inv. Co.'s No. 6-B Kendrick, 1,714 ft. E, 1,347 ft. N, SW cor. Sec.
J. B. Stovall's No. 2 Gayoso, 50 ft. S, 350 ft. E, NW cor. SW SW Sec. 14-19-11. T.D. 390 ft.; W.O.S.R.

Caddo Parish

Burton & Harlan's No. 1 Huckaby, 689 ft. S, 40 ft. W, NE cor. NW SE Sec. 1-20-16. Drlg. sh. 525 ft.
Paul Cooper's No. 7 Stiles, Sec. 33-21-16. O.W.D.D.; O.T.D. 1,850 ft.; drlg. sdy. sh. 1,869 ft.
L. I. Davis' No. 1 Williams, C NW NW Sec. 14-15-15. R.U.
East Texas Ref. Co.'s No. 1 Ewing Atkins, C NW NE Sec. 8-23-15. Drlg. anhy.&sh. 5,545 ft.
R. L. Hall's No. 2 Caddo Lv. Bd., 585 ft. S, 1,245 ft. E, C Sec. 26-21-16. Drlg. sh. 135 ft.
Hamilton & Stone No. 1 Atlanta, 500 ft. S, 244 ft. W, NE cor. NW Sec. 2-20-16. Set 6-in. csg. 1,701 ft.; T.D. 2,301 ft.; W.O.S.R.
V. A. Hardin's No. 1 Glassell-Means, 660 ft. S, 609 ft. E, NW cor. Sec. 9-23-15. Drlg. sh.&L. 3,689 ft.
Jones Oil Co.'s No. 1 Pitts, 250 ft. S, 674 ft. W, NE cor. Sec. 9-23-15. Drlg. 500 ft.
C. C. Lowery's No. 2 Collins et al, 985 ft. E, 210 ft. N, C Sec. 7-20-15. Set 6⅝-in. 1,337 ft.
P. N. McCullough's No. 1 Hart, SW SW Sec. 21-21-16. Set 5-in. csg. 1,023 ft.; T.D. 1,025 ft.; W.O.S.R.
J. F. Mechen's No. 1 Crystal, 990 ft. S, 900 ft. W, NE cor. Sec. 14-21-16. Drlg. sh. 1,325 ft.
J. Ray Murray et al's No. 1 Standard Oil Co. fee, 330 ft. N, 200 ft. E. SW cor. Sec. 12-21-16. Drlg. sh. 260 ft.
J. S. Pate's No. 1 J. B. Files, 330 ft. N, 332 ft. W, SE cor. Sec. 7-21-15. 6⅝-in. csg. 1,530 ft.; W.O.C.
Prairie River Synd. No. 2-B Hutchison, 4,055 ft. N, 480 ft. E, SW cor. Sec. 3-15-12. Set 13⅜-in. 735 ft.; 4,545-54 ft. S.S.G.; fairly por. ool. L.; good odor gas; T. Tr. Pk. 5,740 ft.; ran elec. sur.; T.D. 6,010 ft.; W.O.
Seymour Oil Co. No. 1 Hughes et al, 330 ft. NE cor. NW Sec. 15-20-15. W.O. S.R.; set 6-in. csg. 2,190 ft.; T.D. 2,206 ft.
Skidmore-O'Mara, Inc.'s No. 1 Muslow, O.W.W.O., 4,150 ft. N, 579 ft. W, SE cor. SW Sec. 31-21-15. Will set csg. 1,572 ft.
Stanolind O. & G. Co. No. 1, 131 Dillon hrs., C SE NE Sec. 14-21-15. Drlg. sh. 8,073 ft.
Terrill & Horton No. 1 Smith, 200 ft. S and W, C Sec. 36-21-16. Set 6⅝-in. csg. 2,262 ft.; W.O.C. 2,289 ft.

Caldwell Parish

Ark. Fuel Oil Co. No. 1 La. Central Lbr. Co., C NW SW Sec. 31-12-3e. T. Wlx. 1,516 ft.; 9⅝-in. csg. 1,732 ft.; cg. 6,890 ft.
Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. Drlg. sh. 4,120 ft.

Catahoula Parish

Bell Drlg. Co. No. 1 Peck, C SW NE Sec. 33-11n-8e. Set 41 ft. 15½-in. csg.; 50 ft.; W.O.C.

Claiborne Parish

Lisbon Explin. Co. No. 1 Roberta Vaughn, 330 ft. N, 660 ft. E, SW cor. NW NE Sec. 36-21-5. O.W.D.D.; O.T.D. 5,313 ft.; recmtd. 7-in. csg. 5,343 ft.; T. Tr. Pk. 5,405 ft.; drlg. hd. rd. sd. &sh. 7,640 ft.
Maritsky & Bibby's No. 4 McClung, Sec. 29-21-7. Tstg.; T.D. 1,476 ft.

De Soto Parish

Murray Davis' No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16; O.W.D.D.; O.T.D. 2,046 ft.; T.D. 2,515 ft.; tstd. S.W.; P.B. 1,700 ft.; tstd. small S.G.; cg. 2,734 ft.
Roosth & Genecov Prod. Co. No. 1 Woolums, 990 ft. S, 330 ft. E NW cor. SW¼ Sec. 29-12-12. T. Nac. sd. 1,038 ft.; reported S.O. 1,038-64 ft.; P.B. 1,048 ft.; 7-in. 1,038 ft.; tstd. dry; S.D.; W.O. 1,064 ft.
C. H. Tuttle No. 2-A Wemple, E NW cor. SW¼ Sec. 14-12n-11w. T. bkn. sd. 2,640 ft.; 6⅝-in. csg. 2,557 ft.; T.D. 2,698 ft.; W.O.C.
Watts Oil & Gas Co. No. 1 Frank Grocery Co., 338 ft. S, 450 ft. W NE cor., NW Sec. 35-12-11. Drlg. chk. 1,285 ft.

Grant Parish

Arrow Drlg. Co.'s No. 1 Maxwell, 330 ft. S, 810 ft. W, C Sec. 9-9-1e. T. sd. 1,534 ft.; 6-in. csg. 1,530 ft.; W.O.C.; T.D. 1,537 ft.; tstg.

La Salle Parish

Smith Bros.' No. 1 Kenney, 660 ft. S, 150 ft. W, C Sec. 7-10-2e. T.D. 1,510 ft.; S.D.; wtr.

Morehouse Parish

Union Prod. Co. No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. Set 20-in. csg. 125 ft.; 16-in. csg. 712 ft.; set 10¾-in. csg. 2,448 ft.; drlg. 6,930 ft.

Natchitoches Parish

Jack Lent et al's No. 1 Walker, C NE

NE Sec. 9-10-10. 10-in. csg. 63 ft.; S.D. 720 ft.

Sabine Parish

A. R. Chestnut et al's No. 1 Sepulvedo, 990 ft. N, 330 ft. E, SW cor. Sec. 4-7-13. 10-in. csg. 60 ft.; W.O.C.

Hunter Co.'s No. 1 Sabine, 660 ft. NE cor., NW NW Sec. 17-7-13. Drlg. 2,000 ft.

Major Oil Co. No. 7 Bowman Hicks, 330 ft. NW cor. NE SE Sec. 11-7-13. T. clk. 2,139 ft.; set 7-in. csg. 2,143 ft.; treated with 1,500 gal. acd. at 2,420 ft.; S.O.; reacd.; 2,500 gal.; tstd. 5 B. P.D., oil; arng. dpn. 2,472 ft.

Oglesby & Baird's No. 1 Sabine Lbr. Co., SW cor. SW SE Sec. 5-7-13. T. clk. 2,140 ft.; rng. csg.; T.D. 2,140 ft.

Okla.-Texas Tr.'s No. 3 Frost Lbr. Co., NE cor. NE SW Sec. 22-9-13. Sd.; S.O. 2,027-29 ft.; tstd. small S.O.; set 6⅝-in. csg. 3,031 ft.; W.O.C.

Popkins & DeSoto Bros.' No. 1 Peavy-Wilson Lbr. Co., 330 ft. NW cor. SE NW Sec. 36-7n-9w. O.W.W.O.; O.T.D. 500 ft.; drlg. sh. 1,750 ft.

W. L. Posey No. 1 Rivers, C NW NW Sec. 26-8-13. 6-in. csg. 2,147 ft.; T.D. 2,150 ft.; T. clk. 2,145 ft.; set 6-in. 2,-147 ft.; W.O.C.

W. M. Quick No. 1 Sabine, SE cor. NE SE Sec. 8-7-13. 6-in. csg. 2,061 ft.; tstg. 2,116 ft

H. M. Sneed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. T.D. 1,962 ft.; 6-in. csg. 2,061 ft.; W.O.S.R.; T.D. 2,116 ft.

S. E. Stack's No. 1 Grav. 330 ft. SW cor. Sec. 4-7-13. T. clk. 2,025 ft.; set 7-in. csg. 2,028 ft.; W.O.C.

Webster Parish

Geo. B. Barham's No. 1 Bodcaw Lbr. Co., 627 ft. N, 710 ft. E, SW cor. SE Sec. 15-21-10. O.W.D.D.; O.T.D. 4,683 ft.; drlg. sh.&L. 4,710 ft.

Hassie Hunt's No. 1 Gardner, C NW NE Sec. 32-21-10. T. Hillwy. sd. 5,680 ft.; set 5½-in. csg. 5,660 ft.; tstg. 5,894 ft.; washing in.

Hassie Hunt's No. 2 Gardner, 760 ft. S, 660 ft. W. NE cor. Sec. 22-21-10. Drlg. sh.&L. 5,885 ft.

Hunt Oil Co. No. 1 Glass et al, C SE NW Sec. 30-21-9. Set 9⅝-in. csg. 5,665 ft.; drlg. sh. 8,450 ft.

Hunt Oil Co. No. 2 E. L. Stewart, Sec. 32-21n-10w. D sd. 8,485-97 ft. (oil); Rod. sd. 8,557-81 ft., dist.; 7-in. csg. 8,571 ft.; T.D. 8,590 ft.; perf. D sd.

Midstates Oil Corp.'s No. 1 W. L. Covle, 100 ft. NW, C NE SE Sec. 20-21-10. Drlg. sd.&sh. 7,010 ft.

Stanolind O. & G. Co. No. 3 Pardee, C SW SE Sec. 35-21-10. T. Cot. Val. 8,-030 ft.; drlg. sh. 8,233 ft.

Stanolind O. & G. Co.'s No. 4 Pardee, 660 ft. SE cor. Sec. 25-21-10. Drlg. sh. &L. 5,182 ft.

Woodley Pet. Co.'s No. 2 Couch, 810 ft. S. 510 ft. W. NE cor. SW Sec. 35-21-10. 13¾-in. csg. 683 ft.; drlg. sh.&L. 3,507 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 3 Brookshire, Sec. 66-12s-3e. Drlg. sd. 2,110 ft.

Continental Oil Co. No. 1 David Meaux, Sec. 9-12s-3e. T.D. 11,359 ft.; T. gas sd. 11,318 ft.; D.S. stk.; fsg.

Continental Oil Co. No. 1 Francioi, Sec. 67-12s-3e. Drlg.

Stanolind O. & G. Co.'s No. 1 J. E. Kibbe, Sec. 50-12s-3e. Drlg. sh.&L. 7,-700 ft.

Bancroft—Beauregard Parish

Republic Prod. Co.'s No. 1 Whitman, Sec. 21-6s-13w. T.D. 7,308 ft.; 5½-in. csg. 7,303 ft.; I.P. 38 bbl. in 3 hrs.; ½-in. ck.

Republic Prod. Co. No. 10 Columbia Ld. & Thr. Co., Sec. 15-6s-13w. T.D. 7,295 ft.; 7-in. csg. 7,290 ft.; I.P. 37 bbl. in 3 hrs.; ½-in. ck.

Republic Prod. Co. No. 9 Lutcher Moore, Sec. 15-6s-13w. Cg. sdy. sh. 10,699 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 St. Mary Parish Sch. Bd., Sec. 16-16s-12e. Drlg. sd.&sh. 10,-513 ft.

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. 7⅝-in. csg. 10,985 ft.; T.D. 11,609 ft.; perf. csg. 10,822-45 ft.; tstd. gas; sqzd.; perf. csg. 10,702-27 ft.; tstd. gas; reperf. csg. 10,475-95 ft.; tstd. gas-cut mud; perf. csg. 9,580-94 ft.; tstg.

Baton Rouge—East Baton Rouge Parish

W. V. Bowles' No. 2 Richard Community, Sec. 45-7s-1e. R.U.

W. V. Bowles et al's No. 1 E. Reinkin, Sec. 46-7s-1e. T.D. 6,518 ft.; run 5½-in. csg. 4,440 ft.; perf. csg. 4,350-60 ft.; I.P.; gas well.

Guaranty Oil Co. No. 2 Morgan, Sec. 65-7s-1w. T.D. 6,530 ft.; 5½-in. csg. 6,450 ft.; comp.; no ga.

Wm. Helis' No. 2-B Duplantier, Sec. 68-7s-1w. Drlg. sh. 6,060 ft.

Wm. Helis' No. 8-A Duplantier, Sec. 65-7s-1w. T.D. 6,472 ft.; 7-in. csg. 6,463 ft.

Wm. Helis et al's No. 2-D D. D. A. Duplantier, Sec. 66-7s-1w. T.D. 6,474 ft.; 7-in. csg. 6,461 ft.; I.P. 60 B.P.D.; ½-in. ck.

Wm. Helis' No. 3 Masteriste, Sec. 66-7s-1w. R.U.

Wm. Helis' No. 2 Williams, Sec. 66-7s-1w. Loc.

J. Edw. Jones' No. 1 Nichols Community, Sec. 45-7s-1e. T.D. 6,513 ft.; 5½-in. csg. 6,513 ft.

T. G. Markley et al No. 3 Knox, Amis-Farnbacher, Sec. 66-7s-1w. Loc.

T. G. Markley et al's No. 5 Knox-Amis-Farnbacher, Sec. 66-7s-1w. Drlg. sh. 2,030 ft.

Marshland Oil Co.'s No. 1 J. B. McDonald, Sec. 45-7s-1e. Loc.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 19 State-Bay St. Elaine, Sec. 18-22s-18e. T.D. 6,500 ft.; 9⅝-in. csg. 6,400 ft.; drlg. sh. 7,036 ft.

Bayou Choctaw—Iberville Parish

Standard Oil Co. (La.) No. 11 Wilbert, Sec. 53-9s-11e. T. salt 718 ft.; T.D. 4,-500 ft.; rmg.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co. No. 1-B Wilbert, Sec. 78-8s-8e. T.D. 3,025 ft.; 13⅜-in. csg. 3,000 ft.; T. salt 4,101 ft.; T.D. 4,182 ft.; S.D.; abd.

Humble O. & R. Co.'s No. 2-B Wilberts, Sec. 78-8s-8e. Loc.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 2 Gheens Realty Co., Sec. 37-15s-20e. T.D. 7,672 ft.; 5-in. csg. 7,618 ft.; perf. csg. 7,245-80 ft.; I.P. 31 B.P.D.; ¼-in. ck.

Black Bayou—Cameron Parish

Earth Pet. Co No. 2 R. A. Moore, Sec. 18-12s-12w. Drlg. sh. 7,255 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Texas Co.'s No. 58 State, Sec. 20-23s-30e. T.D. 3,808 ft.; 7-in. csg. 3,773 ft.; perf. csg. 3,640-3,710 ft.; I.P. 150 B.P. D.; ¼-in. ck.

Texas Co.'s No. 59 State, Sec. 19-23s-20e. Drlg. sh. 1,839 ft.

Cameron Meadows—Cameron

Magnolia Pet. Co. No. 25 Cameron Meadows, Sec. 21-14s-13e. Drlg. sh. 6,-663 ft.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.; T.D. 6,088 ft.

Sun Oil Co. No. 2 Dodge Sunberry, Sec. 65-15s-15e. S.D. 4,259 ft.; T.A.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 5 K. B. Hanzen, Sec. 9-12s-6w. Drlg.

Humble O. & R. Co. No. 4 Sweet Lake Ld. & O. Co., Sec. 7-12s-6w. T.D. 8,-448 ft.; P.B. 7,508 ft.; sdtrkd.; T.D. 8,-462 ft.; fsg.

Shell Oil Co., Inc., No. 3 Hanzen, Sec. 21-12s-6w. 10¾-in. csg. 2,752 ft.; cg. oil sd. 8,818 ft.; T.S. 8,815 ft.; T.D. 9,300 ft.; 5-in. csg. 9,299 ft.; P.B. 8,-925 ft.; perf. csg. 8,883-8,915 ft.; tstg.

Charenton—St. Mary Parish

Commerce Oil Co.'s No. 3 Parro, Sec. 31-13s-10e. T.D. 6,695 ft.; S.D.

Fifteen Oil Co. No. 2 State, Sec. 31-13s-10e. T.D. 7,943 ft.; 7-in. csg. 7,200 ft.

Knisley Oils, Inc.'s No. 1 Hertel, Sec. 21-13s-9e. T.D. 1,806 ft.; P.B. 1,150 ft.; W.O.C.

Knisley Oil Co.'s No. 7 Hertel, Sec. 21-13s-9e. T.D. 1,796 ft.; 7-in. csg. 1,-776 ft.; I.P. 200 B.P.D.; ¾-in. ck.

Knisley Oil, Inc.'s No. 8 Hertel, Sec. 21-13s-9e. T.D. 1,134 ft.; R.U. to pmp.

Knisley Oil, Inc.'s No. 6 Le Blanc, Sec. 21-13s-9e. Loc.

Pan American Prod. Co. No. 14 Laws Realty Co., Sec. 30-13s-10e. T.D. 8,009 ft.; P.B. 7,170 ft.; made emg. job 7.-145-55 ft.; perf. csg. 7,154-58 ft.; I.P. 14 bbl. dist. per day; ¼-in. ck.

Pan American Prod. Co. No. 16 Laws Realty Co., Sec. 30-13s-10e. T.D. 7,204 ft.; abd.

Pan American Prod. Co.'s No. 17 Laws Realty Co., Sec. 31-13s-10e. Drlg.

Pan American Prod. Co.'s No. 6 South Coast Corp., Sec. 31-13s-10e. Drlg.

Cheneyville—Rapides Parish

Amerada Pet. Corp.'s No. 6 Well, Sec. 54-1s-2e. Drlg.

Gulf Oil Corp. No. 1 Bickerstaff, Sec. 4-18s-2e. T.D. 5,755 ft.; 7-in. csg. 5,737 ft.; I.P. 389 B.P.D.; ¼-in. ck.

Gulf Oil Corp.'s 1-A C. J. Pope, Sec. 56-1s-2e. Drlg. 67 ft.

S. W. Richardson's No. 3 Well, Sec. 54-1s-2e. Drlg. sh. 5,001 ft.

Convent—St. James Parish

Continental Oil Co. No. 2 Colonial Sugars, Inc., Sec. 50-12s-4e. T.D. 10,012 ft.; abd.

Continental Oil Co.'s No. 2 Realty. P.B. T.D. 8,045 ft.; run tbg.

Creole—Cameron Parish

Superior Oil Co.'s No. 8 State, Twp. 15s-8w. Drlg. sd.&sh. 5,827 ft.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 25 Community, Sec. 31-10s-2e. Loc.

Humble O. & R. Co.'s No. 16 Gumbel, Sec. 36-10s-2e. Drlg. sh. 5,810 ft.

Kiva Oil Co. No. 1 Duplessis, Sec. 66-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 23 State, Sec. 5-22s-16e. T.D. 7,268 ft.; P.B.; sdtrkd. 7,091 ft.; T.D. 7,152 ft.; rmg.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 2 Glaze, Sec. 6-2s-3e. Drlg. sd.&sh. 7,310 ft.

Amerada Pet. Corp.'s No. 3 Irion, Sec. 6-2s-3e. Loc.

Amerada Pet. Corp.'s No. 4 C. B. Marchive, Sec. 6-2s-3e. T.D. 8,525 ft.; run 5½-in. csg.

Amerada Pet. Corp.'s No. 5 C. B. Marchive, Sec. 6-2s-3e. Drlg. sh. 3,812 ft.

Amerada Pet. Corp.'s No. 6 Marchive, Sec. 6-2s-3e. Drlg.

Amerada Pet. Corp.'s No. 1 White et al, Sec. 7-2s-3e. Loc.

Amerada Pet. Corp.'s No. 3 R. L. Whitlow, Sec. 6-2s-3e. Loc.

Amerada Pet. Corp.'s No. 4 Whitlow, Sec. 1-2s-2e. Loc.

Amerada Pet. Corp. No. 3 Marchive, Sec. 6-2s-3e. T.D. 8,480 ft.; 7-in. csg. 8,478 ft.

Amerada Pet. Corp. No. 1 Merchants & Planters Bnk., Sec. 41-1s-3e. Loc.

Gulf Explr. Co. No. 5 Samuel Haas Est., Sec. 8-2s-3e. T.D. 8,584 ft.; 5½-in. csg 8,584 ft.; perf. csg. 8,565-70 ft.; flwd oil; went dead; S.D.

G. W. Kennedy et al's No. 1 R. R. Irion, Sec. 1-2s-2e. Loc.

Geo. Lilly et al No. 1 Dent, Sec. 1-2s-2e Drlg. sh. 3,620 ft.

Sid Richardson No. 3 State-Bayou Rouef, Sec. 6-2s-3e. Drlg. sh.&L. 7,416 ft.

S. W. Richardson's No. 6 Haas Inv. Co., Sec. 7-2s-3e. Drlg. sh. 6,870 ft.

Pausse Point—Iberia Parish

Texas Co. No. 6 State, Twp. 11s-8e. R.U.

Garden Island—Plaquemines Parish

Texas Co. No. 38 State, Sec. 38-23s-33e. Drlg. 5,136 ft.

Golden Meadows—La Fourche Parish

F. W. Bennett O. & R. Co.'s No. 1 Justillien Orgeron, Sec. 12-19s-22e. Cd. oil sd. 5,157-5,200 ft.; T.D. 5,675 ft.; 7-in. csg. 5,560 ft.; P.B. 5,476 ft.; stk. tbg.

Berkshire Oil Co.'s No. 3 J. Nicol, Sec. 2-19s-22e. 7-in. csg. 5,370 ft.

Taylor Fithian's No. 1 Mrs. Jacking Lambas, Sec. 2-19s-22e. Spd. and S.D.

Taylor Fithian's No. 1 Edw. J. Parra, Sec. 12-19s-22e. 7-in. csg. 5,507 ft.

Golden Meadows Oil Co.'s No. 1 Collins Unit, Sec. 12-19s-22e. Drlg. sh. 5,569 ft.

Wm. Helis' No. 1 Gaspard & Rizau, Sec. 9-19s-22e. T.D. 7,925 ft.; run 7-in. csg.

M. H. Marr and R. A. Bristol No. 1 Church property, Sec. 2-19s-22e. T.D. 7,724 ft.; sdtrkd.; T.D. 9,007 ft.; P.B. and sdtrkd.; T.D. 2,652 ft.; T. sd. 2,647 ft.; 7-in. csg. 2,647 ft.; tstd. S.W. and oil; P.B. 2,000 ft.; sdtrkd.; T.D. 2,666 ft.; T.S. 2,648 ft.; flwd. oil and S.W.; S.D.

M. H. Marr & G. H. Vaughn No. 1 Adam Terrebonne, Sec. 9-19s-22e. Spd.

M. H. Marr and G. H. Vaughn No. 1 F. & D. Unit, Sec. 12-19s-22e. T.D. 9,089 ft.; sdtrkd. 5,050 ft.; drld. to 8,453 ft.; P.B. 8,291 ft.; sdtrkd.; cg. 10,030 ft.

St. Mary Oil Co.'s No. 2 Choust, Sec. 12-19s-22e. R.U.

Terouche Oil Co.'s No. 1 Rudolph Chermire, Sec. 12-9s-22e. T.D. 5,501 ft.; 7-in. csg. 5,501 ft.; tstg.

Texas Co.'s No. 3 L.L.&E., Golden Meadows, Sec. 78-19s-21e. Drlg. sh. 7,270 ft.

Texas Co. No. 2 State-Catfish Lake, Sec. 3-20-21e. T.D. 10,250 ft.; 7⅝-in. csg. 2,903 ft.; drld. to 2,775 ft.; perf. 2,730-72 ft.; swbd. 50% oil; I.P. 187 B.F.P. D.; pmpg.; 30% S.W.

Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. Drlg. sdy. sh. 2,770 ft.

Texas Co. No. 1 Theriot, Sec. 12-19s-21e. Drlg. L. 8,900 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. T.D. 9,380 ft.; fsg.

Gulf Ref. Co. No. 3 State QQ, Sec. 3-19s-19e. T.D. 8,131 ft.; 9⅝-in. csg. 8,-099 ft.

Texas Co. No. 1 State-Lookout Pass, Sec. 48-20s-18e. R.U.

Grand Lake—Cameron Parish

Amerada Pet. Corp. No. 1 Mallard Bay State, Sec. 12-13s-4w. Drlg. sh.&sd. 7,-561 ft.

Superior Oil Co.'s No. 3 State. R.U.

Hackberry—Cameron Parish

Stanolind O. & G. Co.'s No. 1 Benson-Vincent, Sec. 29-12s-10w. Loc.

Gulf Oil Corp. No. 25-A Erwin, Sec. 12-12s-10w. Drlg.

Gulf Oil Corp.'s No. 26-A M. P. Erwin, Sec. 13-12s-10w. Cg. sd. 3,152 ft.

Stanolind O. & G. Co. No. 28-A Gulf fee, Sec. 30-12s-10w. T.D. 7,037 ft.; P.B. 5,-704 ft.; sdtrkd.; 7-in. csg. 7,019 ft.; T.D. 7,512 ft.; P.B. 6,941 ft.; perf. csg. 6,852-89 ft. and 6,902-40 ft.; I.P. 118 B. P.D.; 3/32-in. ck.

Texas Co. No. 27-B State, 623 ft. S, and 5,142 ft. E of SE cor. Sec. 12-12s-10e. in Twp. 12s-9w. T.D. 7,843 ft.; salt; T. salt 7,839 ft.; P.B. 6,500 ft.; W.O.C.

Union Sulphur Co. No. 12 Doiron, Sec. 37-12s-10w. T.D. 8,064 ft.; P.B. 4,050 ft.; sdtrkd. 4,162 ft.; T.D. 6,953 ft.; 5-in. csg. 6,868 ft.

Union Sulphur Co.'s No. 1 Simon Doiron, Sec. 37-12s-10w. R.U.

Horseshoe Bayou—St. Mary Parish

Texas Co.'s No. 3 State, Sec. 40-17s-9e. Drlg. sdy. sh. 8,805 ft.

Jeanerette—St. Mary Parish

Herton Oil Co.'s No. 6 Roane, Sec. 38-13s-9e. Drk.

Jefferson Island—Iberia Parish

Texas Co.'s No. 3 Jefferson Salt Mining Co., Sec. 58-12s-5e. Drlg. sh.&L. 5,468 ft.

Jennings—Acadia Parish

Carter-Perrin & Brian No. 1 Martel, Sec. 47-9s-2w. T.D. 1,916 ft.; 6-in. csg. 1,-862 ft.; T.A.

Glassell-Glassell No. 8 Trusher, Sec. 43-9s-2w. R.U.

Shell Oil Co., Inc., No. 7 Conover, Sec. 40-9s-2w. 5½-in. csg. 7,166 ft.; T.D. 7,704 ft.; P.B. 7,666 ft.; cleaned hole to 6,888 ft.

Stanolind O. & G. Co. No. 115 Crowley Oil & Min. Co., Sec. 48-9s-2w. Drlg. sdy. sh.&L. 5,026 ft.

Lafitte—Jefferson Parish

Texas Co. No. 14 Lafitte, Sec. 20-17s-24e. Loc.

Texas Co.'s No. 5 Madison Realty Co., Sec. 17-17s-4e. Loc.

Texas Co.'s No. 4 Marrero, Sec. 21-17s-24e. Loc.

Texas Co.'s No. 11 Rigolet Cooperative Fur Co., Sec. 29-17s-24e. Drlg. sh. 9,-998 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 10 La Fourche Bas. Lv. Dist., Sec. 2-18-25e. T.D. 7,242 ft.; abd.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 10 State, 1,320 ft. N of No. 3, in Lake. T.D. 3,208 ft.; twisted off D.S.; sdtrkd. 2,940 ft.; T.D. 9,614 ft.; 6-in. csg. 9,614 ft.; tstg.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. T.D. 10,604 ft.; 7⅝-in. csg. 10,604 ft. drlg. sh.&sdy. sh. 10,700 ft.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 27 State, Sec. 7-23s-18e. 10¾-in. csg. 1,484 ft.; T.D. 5,233 ft.; salt; T. salt 4,718 ft.

La Pice—Iberville Parish

Shell Oil Co., Inc.'s No. 2 Natalbany Lbr. Co., Sec. 19-9s-2e. Drlg. sh. 2,199 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.

New Iberia—Iberia Parish

Acadian Prod. Co. No. 1 Weeks-Sanders, Sec. 51-12s-7e. T.D. 1,277 ft.; 7-in. csg. 1,205 ft.; perf. csg. 1,205-10 ft.; abd.

Wm. Helis' No. 14 Bernard, Sec. 54-12s-7e. Drlg. rk. 2,727 ft.

Wm. Helis No. 9 Bolivar, Sec. 56-12s-7e. S.D. 3,402 ft., salt; P.B.; sdtrkd.; drlg. sd. 3,639 ft.

Wm. Helis No. 7 J. E. Schwing, Sec. 56-12s-7e. Drlg. sd.&sh. 8,310 ft.

Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co.'s No. 11 J. P. Duhe, Sec. 26-12s-7e. T. salt 3,412 ft.; T.D. 3,415 ft.; P.B. 2,500 ft.; to sdtrk.

Texas Co.'s No. 3 Schwing, Sec. 71-12s-7e. R.U.

Paradis—St. Charles Parish

Texas Co. No. 2 L.L.&E. Paradis, Sec. 6-14s-20e. Drlg. sh. 3,626 ft.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 15 Wilson & Cochran, Sec. 4-6s-5e. T.D. 4,781 ft.; P.B.; sdtrkd. 4,100 ft.; drlg. sh. 4,252 ft.

Pan American Prod. Co. No. 8 Cormier, Sec. 4-6s-5e. R.U.

Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 40 Orleans Lv. Bd., Sec. 13-18s-15e. Drlg. sh. 2,612 ft.

Quarantine Bay—Plaquemines Parish

Gulf Ref. Co. No. 5-A Orleans Lv. Bd., Sec. 7-19s-17e. Drlg. sh. 8,546 ft.

Gulf Oil Corp.'s No. 3-A Plaquemines Ld. Co., Sec. 7-19s-17e. Loc.

Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.

Gulf Oil Corp. No. 13 State, Sec. 8-19s-17e. T. sd. 8,503 ft.; T.D. 8,519 ft.; run 7-in. csg. 8,509 ft.

Sorrento—Ascension Parish

Sorrento Synd. No. 1 L. L. Bernard, Sec. 27-10s-4e. S.D. 1,717 ft.

South Houma—Terrebonne Parish

Shell Oil Co., Inc., No. 1 Duplantis, Sec. 74-18s-18e. T.D. 10,487 ft.; abd.

South Jennings—Jeff Davis Parish

Stanolind O. & G. Co.'s No. 1 Dan Doherty, Sec. 15-10s-3w. Loc.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 2 Calcasieu Natl. Bnk., Sec. 35-10s-4w. Drlg. sh. 9,815 ft.

Continental Oil Co.'s No. 1 Joe Sturdivant, Sec. 36-10s-4w. Cg. 9,879 ft.

Valentine—La Fourche Parish

Wm. Helis' No. 5 Valentine Sugars, Inc., Sec. 2-17s-20e. 10¾-in. csg. 1,-632 ft.; drlg. sh. 4,530 ft.

Pan American Prod. Co. No. 3 Ducas-Abribat. Drlg. sh. 6,090 ft.

Pan American Prod. Co.'s No. 21 Harang, Sec. 9-17s-20e. Drlg. sh. 2,115 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 6 Buras Lv. Bd., Sec. 27-21s-30e. Drlg. sh. 6,-987 ft.

Ville Platte—Evangeline Parish

Continental Oil Co. No. 2 Corell, Sec. 36-3s-2e. Drlg. sd.&sh. 10,150 ft.

Continental Oil Co.'s No. 4 Orise Deville, Sec. 46-3s-2e. Drlg. sh. 8,950 ft.

Continental Oil Co.'s No. 5 Orise Deville, Sec. 3-4s-2e. Drlg. sh. 8,215 ft.

Continental Oil Co.'s No. 5 Ludeau-Haas, Sec. 45-3s-2e. T.D. 9,083 ft.; tstg.
Continental Oil Co.'s No. 6 Ludeau Haas, Sec. 45-3s-2e. Loc.
Continental Oil Co.'s No. 2 McDaniel, Sec. 45-3s-2e. T.D. 9,100 ft.; 6-in. csg. 9,023 ft.
Continental Oil Co.'s No. 5 Opelousas, St. Landry, Sec. 44-3s-2e. Drlg.
Continental Oil Co.'s No. 2 Adam Tate, Sec. 47-3s-2e. T.D. 9,043 ft.; run csg.
Continental Oil Co.'s No. 3 Vidrine, Sec. 34-3s-2e. Drlg. sh. 8,009 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co.'s No. 2 A. Cormier, Sec. 5-12s-2w. Drlg. sh.&L. 4,030 ft.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc.. No. 1 Michel, Sec. 1-14s-12e. Drlg. sh. 9,921 ft.

White Castle—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Baist. Dredge canal.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. T.D. 9,349 ft.; rmg.
Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. R.U.

S. LOUISIANA WILDCATS

Acadia Parish

Mareaux Oil Corp. No. 2 J. E. Settig, Sec. 17-7s-1w. T.D. 1,180 ft.; S.D.; T.A.
Providence Oil Co.'s No. 1 Jos. John est., Sec. 37-10s-1e. R.U.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Allen Parish

Bel Oil Co. No. 2 J. A. Bell Est. (Blue Springs). Drk.

Avoyelles Parish

Carter & Rubsamen's No. 1 I. E. Boyette, Sec. 28-3n-5e. Drlg. L. 4,510 ft.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.
Republic Prod. Co.'s No. 9 Lutcher Moore Lbr. Co., Sec. 1-7s-12w. Drk.

Calcasieu Parish

C. L. Arnette's No. 1 Arthur Welch, Sec. 19-10s-12w. 10¾-in. csg. 130 ft.; T.D. 395 ft.; S.D.
Gulf Oil Corp.'s No. 1 Amanda Brannon, Sec. 16-11s-10w. R.U.
Humble O. & R. Co. No. 2 Edgewood, Sec. 32-7s-10w. Drlg. sh. 7,065 ft.
La.-Gulf Coast Drlg. Co. No. 1 Langdon, Sec. 13-10s-13w. S.D. 1,890 ft.

Iberville Parish

Housh & Thompson No. 1 Kessler & Folse, Sec. 40-11s-13e. S.S.O.; T.D. 10,823 ft.; D.S. stk.; fsg.

Jefferson Parish

California Co. No. 1 Adam Rutley, Sec. 2-16s-23e. 20-in. csg. 163 ft.; 13⅜-in. csg. 1,980 ft.; 9⅝-in. csg. 8,496 ft.; drlg. ahd.
Continental Oil Co. No. 1 Bernstein, Sec. 2-16s-23e. Drlg. sh. 2,330 ft.

Jeff Davis Parish

Housh & Thompson's No. 1 Lacassine, Sec. 29-11s-5w. Loc.
Union Sulphur Co. No. 2 H. B Tietje, Sec. 36-2s-4w. Drlg. sh.&L. 8,947 ft.

La Fourche Parish

Gulf Oil Corp. No. 2 Grandison, Sec. 21-20s-23e. 13⅜-in. csg. 2,090 ft.; drlg. sh. 6,930 ft.
J. Perr[illegible]scranton No. 2 Martinez, Sec. 132-15s-17e. T.D. 10,515 ft.; 5-in. csg. 10,150 ft.; perf. csg. 10,124-36 ft.; flwd. oil and S.W.; perf. csg. 10,128-32 ft.; flwg. 13 B.F.P.D.; 5/32-in. ck.; 80% oil; tstg.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. Drlg. sh. 3,039 ft.

Livingston Parish

Humble O. & R. Co.'s No. 1 Great Southern Lbr. Co., Sec. 27-7s-5e. Drlg. sh. 5,881 ft.

Orleans Parish

W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 10,394 ft.; 5½-in. csg. 10,274 ft.; perf. csg. 10,164-69 ft.; swbd. wash wtr.; drld. out to T.D. 10,300 ft.; perf. csg. 10,285-94 ft.; swbd. S.W.; P.B. 10,175 ft.; swbd. oil and showed little gas; reperf. csg. 10,116-24 ft.; well made one head, blowing wash wtr., trace of oil; P.B. 10,150 ft.; acd.; perf. csg. 10,138-44 ft.; swbd. little oil and brksh. wtr.; S.D.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Driv. piling.
W. T. Burton No. 3 State-Lake Pontchartrain, Sec. 18-11s-15e. Loc.
W. T. Burton No. 4 State-Lake Pontchartrain, Sec. 18-11s-15e. Loc.

Plaquemines Parish

Gulf Oil Corp. No. 8 State P.P., Sec. 18-23s-31e. 13⅜-in. csg. 1,949 ft.; T.D. 8,390 ft.; 9⅝-in. csg. 8,305 ft.
Texas Co. No. 1 State-Bastian Bay, Sec. 43-20s-28e. 10¾-in. csg. 1,924 ft.; drlg. sh. 9,112 ft.

Rapides Parish

Gulf States Prod. Co.'s No. 1 Dunman & Robinson, Sec. 69-4n-3w. Loc.
Smith & Aarnes No. 1 Eota Realty, Sec. 12-4n-3e. Drk.

St. Bernard Parish

Carter, Molero & Brian, Sec. 129-14s-14e. Drk.
Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; mlg. on csg. 10,310 ft.

St. John the Baptist Parish

Pan American Prod. Co. No. 1 Mill, Sec. 12-11s-7e (LaPlace prospect). 10¾-in. csg. 2,837 ft.; drlg. sh.&shils. 7,181 ft.

St. Martin Parish

Continental Oil Co.'s No. 1 Leveret, St. John Plantation, Sec. 42-10s-7e. O.W.D.D. T.D. 9,032 ft.; 9⅝-in. csg. 2,051 ft.; drlg. sh. 9,810 ft.
Wm. Hells' No. 1, Levert, St. John Plantation, Sec. 33-9s-7e. Drlg. sh. 4,400 ft.
Shell Oil Co., Inc., No. 1 Iberville Ld. Co., Sec. 86-8s-7e. Cg. sdy. sh. 7,214 ft.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

St. Tammany Parish

Honey Island Dev. Corp. No. 1 W. C. Forbes, Sec. 33-7s-15e. T.D. 100 ft.; 20-in. csg. 87 ft.

Terrebonne Parish

Continental Oil Co. et al's No. 1 Peters, Sec. 32-19s-15e. Loc.
Shell Oil Co., Inc., No. 1-A Peters, Sec. 47-19s-15e. Cg. sh. 8,912 ft.
Texas Co. No. 3 State-Coon Point, Twp. 23s-14e. 10¾-in. csg. 1,860 ft.; drlg. sh. 5,626 ft.

Vermilion Parish

La. Ld. & Explo. Co.'s No. 3 La. Fur Co., Sec. 9-15s-1e. Dredge canal.

Vernon Parish

Pan American Prod. Co.'s No. 1 Anderson-Post Lbr. Co., Sec. 27-2n-11w. 9-in. csg. 985 ft.; drlg. sh. 1,865 ft.

TEXAS

Week Ending September 23

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 6 Armstrong-fee, Polly-Chance Sur. Drlg. sh. 8,936 ft.
Harrison & Abercrombie No. 2 Augsburger, Chas. Breen Sur. T.D. 10,355 ft.; tstg.
Harrison & Abercrombie No. 1 Grimes, C. Breen Sur. T.D. 10,464 ft.; comp.; no ga.
Mid-Continent Pet. Corp. No. 2 Chenault, C. Breen Sur. T.D. 10,400 ft.; tstg.
Sun Oil Co. No. 2 Borsodi, C. Breen Sur. 9⅝-in. csg. 7,005 ft.; drlg. sh.&L. 9,607 ft.

Cedar Point—Chambers County

Standard Oil Co. of Texas' No. 55-118 State. T.D. 6,100 ft.; P.B. 3,000 ft.; sdtrkd.; T.D. 6,040 ft.; run csg.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur. No. 131. T.D. 8,400 ft.; W.O.C.

South Cotton Lake—Chambers County

Salt Dome Oil Co.'s No. 3-A Lawrence, S. Barrow Sur. R.U.

Turtle Bay—Chambers County

Stanolind O. & G. Co.'s No. 2 State, Tr. 39. Loc.

Garwood—Colorado County

Davis & Co., Inc., No. 1 J. R. McLane, I.&G.N. Sur. 41. T.D. 6,988 ft.; run elec. sur.

Big Creek—Fort Bend County

Merrimac Oil Corp. No. 1 George, B. Wickson Sur. (SW flank). Spd. and S.D.

Thompson—Fort Bend County

John Blaffer's No. 2 Davis, Robt. Peebles Sur. Spd.

Caplen—Galveston County

Sun Oil Co. No. 1 Zinn & Forman, S. F. Hughes Sur. T.D. 7,583 ft.; P.B. 7,400 ft.; 7-in. csg. 7,400 ft.; perf. csg. 7,355-75 ft.; I.P. 454 B.P.D.; ¼-in. ck.

Dickinson—Galveston County

Pure Oil Co. No. 1 R. S. Wooten Est., T. W. Johnson Sur. (S. Dickinson area). T.D. 9,000 ft.; 5½-in. csg. 8,753 ft.; flwg. gas and dist.

League City—Galveston County

Phillips Pet. Co. No. 1 Dugan, S. F. Austin Sur. T.D. 10,187 ft.; 5½-in. csg. 9,950 ft.; perf. csg. 9,226-30 ft.; flwd. oil&S.W.; reperf. csg. 9,940-43 ft.; tstd. oil and S.W.
Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; flwd. S.W.; sqzd. perf.; S.D.
Phillips Pet. Co.'s No. 3 Stewart Title Guaranty Co., S. F. Austin Sur. R.U.
Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. Loc.
Phillips Pet. Co. No. 1 Wimhurst (NW extension). Cg. 10,260 ft.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 17-C, Humble-West, James Roth Sur. Drlg. sh. 4,069 ft.
Stanolind O. & G. Co.'s No. 1 Coulter, Wm. Dobie Sur. T.D. 5,849 ft.; 5½-in. csg. 5,849 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Fairbanks—Harris County

Union Prod. Co. No. 10 Whitehead-Rash-Phillips, Wiley S. Powell Sur. T.D. 7,224 ft.; T.S. 7,208 ft.; perf. csg. 7,208-24 ft., flwd. oil and wash wtr.; gas-oil ratio high; killed; perf. csg. 7,208-17 ft., 7,215-18 ft.; tstg.

Friendswood—Harris County

Humble O. & R. Co.'s No. 30 Beamer, T. Choate Sur. Drlg. sh. 3,355 ft.
Humble O. & R. Co.'s No. 20 Gray, Perry & Austin Sur. T.D. 6,048 ft.; W.O.C.

Mykawa—Harris County

McDannald Oil Co.'s No. 1 Schmeltz, R. Boatright Sur. Drlg. sh. 6,060 ft.

Fannett—Jefferson County

Gulf Oil Corp.'s No. 12 Burrell, W. H Smith Sur. Drlg. sh. 2,030 ft.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T &N.O. Sur. No. 207. T.D. 8,710 ft.; perf. csg. 8,685-90 ft.; flwd. S.W.; made sqze. job; perf. csg. 8,667-71 ft.; tstd. S.W.; made sqze. job; W.O.C.

Lovells Lake—Jefferson County

Humble O. & R. Co.'s No. 9 Broussard, C. Hillebrandt Sur. T.D. 7,780 ft.; W.O.C.
Humble O. & R. Co. No. 2 W. C. Turner, Wm. Carr Sur. Drlg. sh. 3,510 ft.
Stanolind O. & G. Co.'s No. 1 B. A. Steinhagen, Wm. Carr Sur. Drlg. 3,522 ft.

Esperson—Liberty County

General Crude Oil Co.'s No. 6-B Esperson, A. McNeil Sur. Drlg. sh. 6,590 ft.
General Crude Oil Co.'s No. 8-B Esperson, A. McNeil Sur. Drlg. sh.&L. 5,880 ft.

Hull—Liberty County

Gulf Oil Corp. No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). T.D. 6,595 ft.; rmg.

Martha—Liberty County

Stanolind O. & G. Co.'s No. 1 Frank Charzan, I.&G.N. Sur. 7. R.U.

Hamman—Matagorda County

J. M. Copeland No. 1 G. L. Butler, J. T. Belknap Sur. Loc.

Orange—Orange County

John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.

Port Neches—Orange County

Texas Co. No. 16 Kuhn, M. E. Hall Sur. Drlg. sh. 5,846 ft.
Texas Co.'s No. 9 Stark, M. A. E. Hall Sur. 1. Loc.

Ace—Polk County

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thompson Sur. Loc.
Shell Oil Co., Inc.'s No. 1 Kirby-West Lbr. Co., G. S. Thomas Sur. Drlg. sh. &L. 6,841 ft.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp.'s No. 20 Wing, I.&G.N. Sur. 14. Drlg. sh.&L. 8,056 ft.
Gulf Oil Corp.'s No. 22 Wing, I.&G.N. Sur. 15. Drlg. sd. 4,586 ft.
Humble O. & R. Co.'s No. 16 B. X. Kirby Lbr. Corp., P. Garcia Sur. Drlg. sh. 6,267 ft.

Spurger—Tyler County

Republic Prod. Co.'s No. 24 fee, N. Hurd Sur. T.D. 7,315 ft.; fsg.
Republic Prod. Co.'s No. 25 fee, N. Hurd Lge. Drlg. 7,116 ft.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Byran Mound). M.I.M.
Hamman Explto. Co. No. 1-B Darrington, State Prison Farm, F. Bingham Sur. Rig.
Glenn McCarthy's No. 1 J. C. Carr, J. D. Valderas Sur. Logged sd. S.O.&G. 9,996-10,004 ft.; T.D. 10,540 ft.; S.D.; may run csg.
Glenn McCarthy No. 1 Houston Farm Dev., James F. Perry and S. Austin Sur. 7. T.D. 10,350 ft. (cor.); flwg. 32 bbl. dist. per day; ¼-in. ck.; tstg.
Glenn McCarthy's No. 2 Houston Farm Dev. Co., J. Perry & E. Austin Sur. 7. Loc.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Edwards Drlg. Co.'s No. 1 Sloan, G. B. Jamison Sur., Turtle Bay extension area. T.D. 6,585 ft.; 5½-in. csg. 6,575 ft.
J. R. Turnbull et al No. 1 W. C. Shepherd, R. A. Porter Sur. T.D. 6,466 ft.; 7-in. csg. 6,429 ft.; flwd. oil, gas, and wash wtr.; sanded up; sdtrkd. 6,463 ft.; T.D. 6,700 ft.; P.B.; perf. 6,457-65 ft.; swbd.; no show; S.D.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferris, H. Chrisman Sur. Loc.
Strake Pet. Co. No. 1 Ned Burford, E. Tumlinson Sur. 10¾-in. csg. 998 ft.; drlg. sh.&sd. 7,250 ft.

Fort Bend County

H. C. Cockburn No. 1 Dzierzanowski, Emma Meyer Sur. 8. 10¾-in. csg. 1,058 ft.; T.D. 7,743 ft.; flwg. est. 50 bbl. dist. per day; ¼-in. ck.
H. R. Cullen No. 1 Booth, Wickson Sur., S flank Big Creek. T.D. 8,002 ft.; abd.
Lloyd Farr et al No. 1 Beard, H.&T.C. Sur. 118. S.D. 2,110 ft.
Hebert & Smith's No. 1 A. P. George, H.&T.C. Sur. 39. Drlg. sh. 2,980 ft.
Magnolia Pet. Co.'s No. 1 G. H. Huntington, Henry Scott Sur. Loc.
Superior Oil Co. No. 1 Kelso, G. Barth Sur. T.D. 5,480 ft.; abd.
Woodland Oil Co. No. 1 Herletta Berg et al, H.&T.C. Sur., Sec. 25. T.D. 7,410 ft.; 9⅝-in. csg. 7,391 ft.; P.B. 7,269 ft.; top junk 7,248 ft.; set whpstk. 7,239½-47 ft.; S.D. 7,384 ft.

Galveston County

Sun Oil Co.'s No. 1-176 State. Driving piling.

Harris County

Selby O. & G. Co. No. 1 East Texas Oil Co., Victor Blanco Sur. 10¾-in. csg. 1,495 ft.; T.D. 8,150 ft.; pipe stk.; abd.
L. R. Wilhite et al No. 1 Houston-Harris Co. Ship Channel, Nav. dist., Ezekiel Thomas Sur. 13-in. csg. 388 ft.; S.D 2,600 ft.

Jackson County

Cron & Gracey's No. 2 Heard, M.&C. Sur. 13. T.D. 5,566 ft.; abd.
Skelly Oil Co.'s No. 1 Kunover, Schwind & Mahers subd., Blk. 4 (Francitas field). R.U.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.

Montgomery County

A. T. Grabowski et al's No. 1 Gay, Wm. Landrum Sur. Drlg. sh. 3,660 ft.

Orange County

American Eagle Oil Co. No. 2 Geo. Pell, Geo. A. Patillo Sur. Loc.

Polk County

Patrick-Tyrell Drlg. Co. No. 1 O. L. Jackson, C. Devore Sur. Loc.

San Jacinto County

F. J. Hynes No. 1 Foster Lbr. Co., M. Brown Sur. Rig.

LEGAL

Department of the Interior, United States Land Office, Santa Fe, New Mexico. Notice is hereby given that leases of the oil and gas deposits in the following lands in the Fulger Basin gas field, undefined, New Mexico, are offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the leasing act of February 25, 1920 (41 Stat. 437) as amended, at the royalty rate scale in the lease form shown in circular 1386, at a sale to be held in the office of the Register of the district land office at Santa Fe, New Mexico, at 10:00 o'clock on October 26, 1939: Unit No. 1, SE¼ SW¼ Sec. 10, W½ SW¼, SE¼ Sec. 15, T. 29 N., R. 12 W., N.M.P.M., 280 acres. and Unit No. 2, N½ and N½ S½ Sec. 22, T. 29 N., R. 12 W., N.M.P.M., 480 acres. The units may be consolidated in a single lease to the same qualified bidder. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid, and file a showing of qualifications to receive the lease required by section 17 of General Land Office circular 1386. The remaining four-fifths, together with the annual rental in advance at the rate of $1 per acre, must be paid and a $5000 corporate surety bond must be furnished prior to the issuance of the leases. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register

F. J. Hynes No. 2 Foster Lbr. Co., M. Finch Sur. Loc.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. R.U.

Wharton County

Humble O. & R. Co.'s No. 1 W. E. Rogers, D. D. Baker Sur. Drlg. sh. 4,083 ft.
Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.
Sun Oil Co.'s No. 1 Winnie M. Pool, G. H.&R.R. Sur. Drk.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 1 St. Charles Co., R. D. Blassman Sur. 18⅝-in. csg. 290 ft.; drlg. sh. 1,315 ft.

Bell County

G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

C. A. Smith's No. 1 W. G. Schuwirth, Jose Antonio de la Garza Sur. Cg. 990 ft.
J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. 3. Drlg. 1,303 ft.

Blanco County

E. L. Nixon's No. 3 Crist, John McClenechen Sur. 94. Loc.

Caldwell County

Dr. J. F. Atha's No. 1 G. W. Carter, Gideon Pace Sur. Spd.

Calhoun County

Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. Drlg. sh. 6,635 ft.

Cameron County

Sal Vieja Oil Co. et al's No. 2 Gatewood Newberry, San Martin gr. Drlg. sh. 5,930 ft.

De Witt County

Marshall Purvis No. 1 Afflerback, L. W. Criswell Sur. T.D. 6,450 ft.; P.B.; sdtrkd.; drlg. ahd.

Duval County

W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.
Clark & Cowden's No. 1 Lucille Gruy, N. Gussett Sur. 28. T.D. 3,023 ft.; abd.
Sam Cunningham et al's No. 1 E. A. Lopez, P. Caballiero Sur., Sec. 14. Drlg. sh. 5,172 ft.
Lanning & Coffield's No. 1 R. Lopez, J. Poitevent Sur. 455. T.D. 2,002 ft.; 5½-in. csg. 1,806 ft.; perf. csg. 1,708-33 ft.
Ownby Drlg. Co.'s No. 1 Hinojosa, A.B. &M. Sur. 131. Loc.
J. D. Smith's No. 1 Ruiz, C.&M.R.R. Sur. 127. R.U.
South Coast Oil Corp., et al's No. 1 F. G. Garcia, H.&G.N. Sur. Drlg. sh. 5,110 ft.
Standard Oil Co. of Texas' No. 1 Jack Casey, San Pedro de Charco Redondo gr. Drlg. sh. 5,367 ft.
Taylor Ref. Co. No. 1 Parr, S.A.&M.G. Sur. 117. T.D. 5,035 ft.; 5-in. csg. 4,734 ft.; perf. csg. 4,726-29 ft.; tstd. S. W.; abd.

Falls County

M. A. Hays No. 1 Wooten, James Powell Sur. T.D. 2,138 ft.; P.B. 2,133 ft.; abd.
J. Shaunfield No. 1 Barganier, J. M. Graham Sur. T.D. 1,195 ft.; Buda L.; S.S.O.; waiting on csg.

Goliad County

D. C. Matthews et al's No. 1 G. J. Swickheimer, Cuadrilla Irrg. Sur. 10-in. csg. 306 ft.; tstd. dry gas on D.S.T. 4,838-63 ft.
John Mayo No. 1 Swickheimer, Sec. 20, Cuadrillo subd., Wm. Patterson Sur. 9 mi. E of Goliad). Loc.

Gonzales County

Mudge Oil Co.'s No. 1 T. G. Edwards-Wesley, W. Pace Sur. Loc.
E. E. Young No. 1 Moore, D. O. Warren Sur. S.D. 1,966 ft.

Guadalupe County

Burton-Garvin & Womack's No. 2 Henry Weil, E. de Los Santos Coy Sur. No. 98. R.U.

Hays County

B. C. Mann et al No. 1 Reeder, R Vaughn Sur. Drlg. 1,910 ft.

Hidalgo County

San Juan Oil Co. No. 1 J. C. Kelly, J. C. Kelly subd., Antonio Velasco Sur., Porc. 70. Rig.

Jim Hogg County

W. L. Goldston's No. 1 E. G. Canales Marcelo Ynojosa gr. T.D. 5,803 ft.; 5½-in. csg. 5,318 ft.; perf. csg. 5,245-58 ft. and 5,215-25 ft.; swbd. S.W.; sqzd. perf.
C. A. Nibert et al's No. 1 Yeager Sur. 20. S.D. 1,600 ft.
T. S. Seibienski's No. 1 Down Royalty Corp., El. Javali gr. Drlg. sh. 2,290 ft.

Jim Wells County

Austin Pet. Co. No. 1 H. M. Reed (8 mi. NW Orange Grove). J. Poitevent Sur. Cmtd. surf. pipe 190 ft.; S.D. 210 ft.
Rodney DeLange et al's No. 1 Maggie McNeill, Benito Lopez de Jean gr. Drlg. sh. 3,770 ft.
Magnolia Pet. Co.'s No. 1 C. C. Hornsby, Los Olmos y Loma Blanca gr. Loc.
Magnolia Pet. Co.'s No. 1 E. H. Stoise et al, Los Olmos y Loma Blanca gr., Lot 16, Blk. 10. Drlg. sh. 5,510 ft.
Parr & Delaney Oil Co. et al's No. 1 P. Garcia, La Anima Solo gr. R.U.
Royal O. & G. Co.'s No. 1 P. Garcia, La Trinidad gr. T.D. 6,015 ft.; 7-in. csg. 4,705 ft.

Kendall County

C. M. Dewey No. 2 Seidensticker, B Davis Sur. No. 20. S.D. 714 ft.

Kimble County

W. S. Kelly No. 1 A. L. Bierchwale, D Lloyd Sur. S.D. 135 ft.
C. H. Wolff & M. C. Moore No. 1 W. J Wilkinson, Brook & Burleson Sur., Sec. 24. S.D. 20 ft.

Kleberg County

Humble O. & R. Co.'s No. 1 M. Garza, Rinconde Santa Gertrudis gr. R.U.
Pure Oil Co.'s No. 1 State, Tr. 171 (Bird Island field). Drlg. sh. 550 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Pmpd. 100 B.F.; 36 hrs., 3 bbl. oily emulsion; cd. L. 6,461-90 ft.; T.D. 6,571 ft.; S.D.

Live Oak County

Northworthy Proc. Co. et al's No. 1 Knight, T. R. Johnson Sur. Drlg. 860 ft.
Smith & Storey's No. 1 J. T. Lyne, J. Cooke Sur. 171. Drlg. sh. 1,780 ft.
L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

J. C. Carter's No. 1 Thomas Franklin, E. L. Taylor Sur. 30. Loc.
C. D. Scarborough No. 1 First Natl. Bk of Rosebud, Jas. Garner Sur. Drlg. 680 ft.

Medina County

Elstone Oil Co.'s No. 1 Wm. Mann, J Campbell Sur. 24. S.D. 770 ft.

Milam County

M. B. Cloud's No. 1-B Henniger, S. C. Robertson Sur. T.D. 700 ft.; 7-in. csg 700 ft.
M. A. Hays et al's No. 1 Sroboda, Wm. Punchard Sur. Drlg. sh. 100 ft.

Nueces County

N. W. Hunter et al's No. 1 A. R. Mantor, Casa Blanca gr. Loc.
John Manley et al No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.
Premont Pet. Co.'s No. 1 G. A. Langham, Los Sauces gr., Lot 12. Sec. 25. T.D. 5,240 ft.; tstd. 360 ft. oily mud. 30 ft. S.W.; drlg. sh. 6,215 ft.
E. A. Graham et al's No. 1 Sam Taylor. D. M. Oliver Sur. T.D. 7,522 ft.; abd.
Renwar Oil Corp. et al's No. 1 J. B. Knight, Sec. 175, Palo Alto gr. 10¾-in. csg. 1,007 ft.; T.D. 7,508 ft.; abd.
Renwar Oil Corp. No. 1 Wright, J. V. L. De Herrera gr. (Riverside area). Drlg. sh. 4,136 ft.
Stanolind O. & G. Co.'s No. 1 Jennie Thompson, J. V. L. de Herrera gr. (Riverside field). Loc.

Refugio County

Humble O. & R. Co.'s No. 5 Thomson, Maximo Gomez Sur. T.D. 6,345 ft.; abd.
Norsworthy Prod. Co. No. 1 Wood, John Sinnott Sur. T.D. 6,530 ft.; well tried to blow out.
Rutherford & Royal O. & G. Co.'s No. 1 E. E. Swift, Esteben Lopez Sur. R.U.

San Patricio County

Seaboard Oil Co.'s No. 1 M. C. Smith, Juan Hart & Sons Sur. Drlg. sh. 7,140 ft.
Texas Gulf Prod. Co. No. 1 Hollan, McAuley Lge., Blk. 6 (1½ mi. SW Sinton). T.D. 7,364 ft.; abd.
Wellington Oil Co. No. 6 Welder, Hart Sur. (Angelita). T.D. 7,051 ft.; 5½-in. csg. 6,305 ft.; perf. csg. 6,225-35 ft.; R.U. to pmp.

Starr County

Banks, Miller Oil Co.'s No. 1 McLean, Unit 3, Valle Del Rico Rio Grande subd., J. B. Villareal Porc. T.D. 2,756 ft.; prep. to test.
C. L. Foster's No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.
Lynes & Robertson's No. 1 Villareal, C. C.S.D.&R.G.N.G.R.R. Sur. 241. Loc.
Verne Clopton's No. 1 Lee M. Green, J. J. Garza Falcon, Porc. 81, Lot 7, Bh. 85. R.U.
Randon Oil Co.'s No. 1 R. E. Margo, Los Comitas gr. Cg. sdy. sh. 3,268 ft.
W. W. Zimmerman's No. 1 Wood, Porc. 84. Drlg. sh. 1,636 ft.

Travis County

G. C. Richardson's No. 1 U. Chamberlain, Jas. Manning Sur. 37. Drlg. sh. 360 ft.

Victoria County

Colton & Colton's No. 1 E. Terrell, A. Sideck Sur. Loc.
Tom L. Gunter et al No. 1 Dietzel (1 mi. E of Coletto Creek field). Rig.
Houston Oil Co.'s No. 1 Jacob Hoenstein, P. Gallard Sur., Lot 43. Drlg. sh. 2,253 ft.
Geo. E. Smith's No. 1 J. E. Stubbs, R. Manchola Sur. R.U.
Stanolind O. & G. Co. No. 7 Vandenberge (Piscedo). T.D. 3,965 ft.; P.B. to sdtrk.; T.D. 6,379 ft.; 5-in. csg. 6,375 ft.
Trinity Drillers et al's No. 1 T. G. Edwards, L. Rodriquez Sur. 10¾-in. csg. 485 ft.; drlg. sh. 5,786 ft.
Trinity Drillers et al's No. 1 B. Vogt, T. T. Victoria Sur. Loc.

Webb County

J. M. Anderson et al No. 1 Frost, C.C.S. D.&R.G.N.G.R.R. Sur. No. 17. Loc.
O. W. Killam's No. 1 fee, H.E.&W.T. Sur. 1859. Drlg. sh. 1,410 ft.
Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). Drlg. sdy. sh. 5,830 ft.

Williamson County

Brown-Gardner et al's No. 1 G. W. Griffin, Harrison Owens Sur. Drlg. 920 ft.

Zapata County

Joe Martinez No. 2 Bruni, J. V. Borego gr. T.D. 938 ft.; S.D.

Zavala County

H. F. Wilcox O. & G. Co.'s No. 1 Kincaid, W. D. Kincaid Sur. T.D. 3,750 ft., L.; 7-in. csg. 2,165 ft.; perf. csg. 2,093-99 ft.; bailed mud, S.S.O.; abd.

WEST TEXAS WILDCATS

Brewster County

H. D. Wilcox's No. 2 Kokernot, Sec. 23 Blk. C, J. V. Massey Sur. Drlg. 1,535 ft.

Cochran County

Dean & Hyde's No. 1 Reed & Taylor, Sec. 21, Harrison & Brown Sur., SE of Duggan pool. C.&P.
Humble O. & R. Co. No. 1 J. Westheimer, Lab. 1, Lge. 146, Stonewall Co. Sch. Ld. Drlg. 5,469 ft.

Crane County

Gulf Oil Corp. No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 5,186 ft.
Magnolia Pet. Co. No. 21 Hardewick-Univ., Blk. 30, Sec. 27, University Sur. (Extension). Drlg. 3,044 ft.

Crockett County

Kimberlin's No. 1 J. W. Robbins, Sec. 4, Blk. B, G.C.&S.F. Sur. Loc.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95, Blk. 2, H.&G.N. Sur. Cg. 7,084 ft.

Dawson County

Ray Albaugh No. 1 Dewey Hogg, T.D. 4,125 ft.; U.R. 5-in. 4,085 ft.; tools still lost in hole. S.D. 4,125 ft.

Ector County

R. H. Gill No. 1 J. E. Parker, Sec. 12, Blk. 45, T.&P. Sur. W.O.R. 145 ft.
Sloan & Zook No. 1 J. L. Johnson, Sec. 34, Blk. 43, T.&P. Sur. P.B. 4,167 ft.; tstg. 24 B.O.P.D.; P.B. 4,167 ft.; 19 B.O. and 16 B.W.; 6 hrs.; pmpd. 7 B. O. and 7 B.W. daily for 7 days.

El Paso County

Tri-State Oil Co.'s No. 1 Kimble, Sec. 237, A.T.&S.F.R.R. Sur. U.R. csg. 2,060 ft.; drld. out to 2,103 ft. after freed tools.

Gaines County

Ohio Oil Co. No. 1 W. L. Gibbs, Sec. 270, Blk. G, W.T.R.R. Sur. Rng. 5-in. 5,140 ft.
Stanolind O. & G. Co. No. 1 J. B. Rayner. Sec. 3, Blk. 30-C, P.S.L. Sur.; 6,000-ft. test. Drld. 39 ft. of sat. out of a 104-ft. sec. from 4,861-4,765 ft.; made 60 bbl. in 30 min.; air-lift; enc. sulfur wtr. at 4,830 ft.; P.B. 4,783 ft.; flwd. 237 B.O.P.D. with 40 B.W.; comp.; 182 B.O.; 12½ hrs. at 4,646-4,760 ft.; comp.; 1,279 B.O. in 24 hrs. on air lift.

Howard County

F. H. E. Oil Co. et al No. 2 D. H. Snyder. Sec. 21. Twp. 1s. Blk. 30. T.&P. Sur.; (extension). W.O.C. 7-in. 2,636 ft.
M. L. Richards No. 1 Read. Sec. 36, Blk. 30, T.&P. Sur. S.D.O. 2,054 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. S.G. 6,340-45 ft.; T.D. 6,402 ft.
Haymon Krupp No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. S.D. 6,015 ft.

Irion County

P. I. Fox et al No. 1 J. M. Nutt, Sec. 5, Gonzales C.S.L. Drlg. 335 ft.; no report.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.W.T. Sur. S.D.O. 4,450 ft.

McCulloch County

A. E. McMillan No. 1 Nat Randall, A. M. Waldrip Sur., Sec. 146, 1,485 ft. est. 1,250,000 cu. ft. gas; D.&A. 1,843 ft.

Pecos County

Lloyd-Penn & Hargraves No. 1 H. E. Bonebrake, Sec. 110, Blk. 8, H.&G.N. Sur. D.&A. 1,727 ft.
Magnolia Pet. Co. No. 1 W. I. Masterson. Sec. 10. Blk. 10, H.&G.N. Sur (Offset S. to Apco discovery). Prep. run csg. 4,614 ft.; enc. some free oil at 4,599-4,614 ft., T.D.; flwd. 1,025 B. O. in 10½ hrs. after 500 gal. acd.; comp.; 1,011 B.O. in 10 hrs. at 4,597-4,614 ft.
Rockdale Oil Co. No. 1 A. Sullivan, Sec. 72, Blk. 10, H.&G.N. Sur. Drlg. 1,070 ft.
Stanley Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. jnk. 7,342 ft.
Superior Oil Co. No. 1 V. W. Crockett-Continental Oil Co., Sec. 7, Blk. 110, T.C.R.R. Sur. C.&P.

Presidio County

Marfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.

Reeves County

Forest Development Corp. No. 1 I. E. Scott, Sec. 286, Blk. 13, H.&G.N. Sur. Cmtd. 8⅛-in. csg. 3,702 ft.; free oil at 4,840-55 ft.; fsg. tools at 5,190 ft.

Runnels County

Homer Price et al's No. 2 J. C. Beddo, Blk. 51, Diaz Sur. 532. Comp.; 25 B.O P.D. and 120 bbl. wtr.

Terrell County

E. M. Thomasson No. 1 Bates, Sec. 31, Blk. 1, H.&G.N. Sur. Drlg. 295 ft.

Tom Green County

H. A. Ringle No. 1 Seal, Sec. 133, Washington Co. R.R. Sur. S.D.O. 1,625 ft.
Dan Short's No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur.; 3,500-ft. test. Prep. lower 10-in. at 2,325 ft.

Upton County

N. A. Moore's No. 1 A. M. Mayhew, Sec 2, Blk. W, G.C.&S.F. Sur. Drlg. 50 ft.

Ward County

Gulf Oil Corp. No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. P.B. 2,300 ft.; straightening hole.
Magnolia Pet. Co.'s No. 2-43 Sealy, Sec 43, Blk. F, G.M.M.B.&A. Sur. Drlg. 1,463 ft.

Yoakum County

Fred M. Allison Prod. Co. No. 1 D. T. Bush Est., Sec. 629, Blk. D, J. H. Gibson Sur. C.O. with C.T. 5,378 ft.
Aloco Oil Co. No. 1 W. S. Knight, Sec. 773, Blk. D, J. H. Gibson Sur. (Extension). Prep shoot; tstg. 5,244 ft.

TEXAS PANHANDLE

Armstrong County

Holmes, Newblock & Haley No. 1 Ed Moore, Sec. 319, Blk. 4-B, H.&G.N. Sur. Drlg. 4,545 ft.

Castro County

English et al No. 1 Gundlach, NW¼ Sec. 145, Blk. 6-M, S.K.&K. Sur. Loc.; no report.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X Sur. C.O. 5,650 ft.

Hartley County

Phillips Pet. Co. No. 1 W. K. Gordon, Sec. 3, Blk. 44, H.&T.C. Sur. Drlg. 3,325 ft.

Lipscomb County

Phil O'Neil's No. 1 Jacob Koch, NW¼ SW¼ Sec. 539, T.&T.C.R.R. Sur. S.D O. 530 ft.

Ochiltree County

James R. Macon et al No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. Bailing rotary fluid preparatory to resuming drlg. with C.T.; T.D. 6,274 ft. cmtd. cone at 5,265 ft.

Potter County

Les Whitaker No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. Drlg. 525 ft.

Roberts County

E. J. Dunigan, Jr., No. 1 Ledrick, Sec. 34, Blk. C, G.&M. Sur. D.&A. 5,428 ft.

E. C. TEXAS WILDCATS

Anderson County

A. Baggett's No. 1 J. R. Gillispie, J. R. Ferguson Sur., 2½ mi. NE of Frankston. Drlg. 3,510 ft.
R. H. Williamson No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. Drlg. 1,800 ft.

Angelina County

Ginter Bros. No. 7 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. S.D. 800 ft.
McHenry's No. 1 Bowers, A. Flores Sur., 4 mi. N of Lufkin; 3,250 ft. SE of McHenry's No. 1 Russell dry hole at 1,032 ft. Loc.

Camp County

H. S. Moss' No. 1 Blackston, E. B. Davis Sur., 2 mi. S Pittsburg. D.&A. 4,600 ft.

Ellis County

C. M. Beckner et al No. 1 H. A. Styles, A. Bullock Sur., 3¼ mi. W of Maypearl. Drlg. 885 ft.

Falls County

M. A. Hayes No. 1 D. G. Wooten, J. Powell Sur., 8 mi. SE of Lott. D.&A. 2,137 ft.
R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton S.D.; W.O. 1,274 ft.

Fannin County

C. Newburn's No. 1 A. G. Allen, M. Caldwell Sur., 7 mi. NE of Banham. Drk.

Grayson County

Ross & Marshall's No. 2 E. Christman.

M. Ahuit Sur., 5 mi. NW of Denison. S.D. 160 ft.

Houston County

Aloco Oil Co. No. 1 Z. W. Wissinger, T. H. Barrow Sur., 7 mi. SW of Elkhart. D.&A. 6,034 ft.

J. C. Cook and Shell Oil Co.'s No. 1 B. T. Masters, Levina Carpenter Sur., ½ mi. NW of Grapeland pool; 10,000-ft. test. R.U.

Grapeland Oil Co.'s No. 1 Guice, J. D. J. Procilla Sur., 2 mi. W of Grapeland. Drlg. 50 ft.

Humble O. & R. Co.'s No. 1 A. Pouncey, J. G. Thompson Sur., Navarro Crossing area. Drlg. 5,561 ft.

J. C. Wynne et al's (Shell Oil Co., Inc.) No. 1 G. E. Dorsey, M. Sallas Sur., 2½ mi. S of Percilla; E 102 ac. of tr.; 10,000-ft. test. Drk.

Hunt County

Raymond Hedge's No. 1 R. E. Hale, G. W. Wright Sur., ⅛ mi. NW of Campbell. W.O.C. 100 ft.

Westmount Oil Co. No. 1 Stevens, J. L. Terry Sur., Abst. 1231, 1½ mi. N of Celeste. D.P. stk.; fsg. 4,800 ft.

Leon County

J. K. Hughes No. 1 Moore, J. N. Boyd Sur., 6 mi. SE Buffalo. Swbg. S.W., and 5% oil 5,534 ft.; S.I. 5,534 ft.

Limestone County

J. R. Bunn's No. 1 F. Winmill, J. C. Neil Sur., 2½ mi. NW of Tehuacana. Cg. 2,399 ft.

M. Samuel No. 1 C. Barron, W. G. McKinsey Sur., 4 mi. NW of Thornton. Drlg. 4,479 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A. Cherino Sur., just outside of city limits of Cherino. Prep. to D.D. 842 ft.

Navarro County

C. F. Carter's No. 1 Allen Eden, M. Shire Sur., 2 mi. NE of Angus. Drlg. 160 ft.

Topaz Oil Co.'s No. 2 W. J. Trammel, A. C. Kyser Sur. Swbg. wtr. with odor oil; prep. rng. csg. to test 2,992-3,000 ft.; flwd. 184 B.O. in 2 hrs.; S.I. for test; T.D. 3,008 ft.; comp.; 603 B.O. P.D.

Topaz Oil Co.'s No. 3 Trammel, A. C. Kyser Sur., SW of Flag Lake, 600 ft. S of No. 2 well. R.U.

Red River County

Kansas-Oklahoma Pet. Corp. No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. S.D. 806 ft.

Robertson County

J. E. Cox No. 1 Sandifer, H. Henry Sur., 8½ mi. SE of Franklin. Loc.

Rusk County

A. O. Whittington's No. 1 Kangerga Bros., Ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. Bldg. drk.

Smith County

Dr. Grant's No. 1 J. W. Waters, J. Stapler Sur., 1½ mi. NE of Garden Valley. Drk.

Martin & Moore No. 1 B. H. Lunceford, W. Shipp Sur., 3 mi. NW of Garden Valley. S.D. 100 ft.

Texas Co.'s No. 1 A. A. Scritchfield, D Page Sur., 2 mi. NW of Bullard. Drlg. 5,356 ft.

NORTH TEXAS WILDCATS

Archer County

Bridwell Oil Co.'s No. 1 Thom, W. H. Spillers Sur., Abst. 375, 6⅝-in. 3,773 ft.; brkn. sat. L. 3,810-33 ft.; S.S.O. 3,846-56 ft.; W.O.T.

British American No. 1 Jack Parkey, Sec. 11, Blk. 3, H.&T.C. Sur., 5,000-ft. test. Test L. 4,653-69 ft.; T.D. 4,669 ft. W.O.T.

Waldo E. Stephens et al's No. 1 Hattie B. Adae, SE part of Blk. 7, Palo Pinto Co. Sch. Lds., 3 mi. SE of Griffin pool. Set 10-in. 100 ft.; W.O.C.

Clay County

L. T. Burns No. 1 J. T. Pickett, W. W. Yearly A-745, 6⅝-in. 4,430 ft.; O.S. 4,430-44 ft.; P.B. 4,380 ft.; drld. out to 4,450 ft.; S.D.O.

Nixon Brothers and J. W. Dutton No. 1 Tanman, SE¼ of Block 4, Cherokee C.S.L. S.D. 1,110 ft.; wtr.

Shell Oil Co., Inc.'s No. 1 Scaling, C of Blk. 87, J. H. Belcher Sur., 4 mi. S of Burns pool. Drlg. 3,655 ft.

Youngblood & Foree's No. 1 Mrs. Ida Wynn, Sec. 2, T.&N.O. Sur. A-795. P.B. 5,515 ft.; W.O.C.

Cottle County

J. E. Burns et al No. 1 J. E. Moss, Sec. 5, Blk. L, A. Forsythe Sur. Jnkd. 225 ft.; skid 20 ft. S.; S.D. 275 ft.

Hardeman County

Amerada Pet. Corp. No. 1 W. M. Rice, Sec. 81, Blk. H, W.&N.W. Sur. Drlg. 7,130 ft.

Carter & Taylor's No. 1 Norton, NW cor. 91-ac. tr. in Blk. 3, Robt. Young Sur., 16 mi. N of Quanah. R.U.R.

G. T. Kimble No. 1 M. T. Walling, SW¼ Sec. 368, Blk. H., H.W.&N.W. Sur., 5,500-ft. test. Drlg. 530 ft.

Jack County

Hanlon-Buchanan, Inc.'s No. 1 T. T. Bouldin, SW part of Blk. 3, W.C.R.R. Sur., Abst. 906, 6⅝-in. 2,737 ft.; S.S.O. 2,743-47 ft.; drlg. plug; started flwg.; S.D. for storage.

Harper Pet. Corp. No. 2 S. V. Vanhooser, Abst. 1926, J. W. Morrow Sur. T.D. 2,030 ft.; S.D.O.

Pitzer & West's No. 1 Sloan, Sec. 2786, T.E.&L. Sur. Spdg.

Montague County

Sackett and Continental No. 1 J. L. Brown, Sec. 58, E.T.R.R. S.D.O. 5,046 ft.

Wichita County

Hanlon-Buchanan, Inc., No. 1 Fassett & Tuttle "F," D.L.&C. Sur. A-596, 6⅝ in 4,040 ft.; L.&O.S. 4,061-92 ft.; shot 155 qt.; tstg. est. 100 bbl.; S.D.O.

J. R. Price and others No. 1 Hodges, NW¼ of Block 13, Burkburnett town site, Thomas Redman Sur., Abst. 243, T.D. 1,710 ft.; 6⅝-in. 1,670 ft.; shot with 17 qt.; S.D.O.

Wilbarger County

Lawson & Leavell No. 18 W. T. Waggoner A, Sec. 109, H.&T.C. Sur., Blk. 14; 3,500-ft. test. T.D. 1,446 ft., sh.. S.D.O.

Rogers & Cavin No. 1 A. P. Morris, Sec 3, Blk. 14, SW of Harrold. Drlg. 2,340 ft.

Wise County

W. F. Holifield et al's No. 1 J. Redell, Rebecca Coleman Sur., Abst. 155, 2 mi. E of Bridgeport. Spd. and S.D.

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Ld. Pits.

Young County

Cosden Pet. Co.'s No. 1 H. C. Shanafelt, A.B.&M.A. Sur., Abst. 1369, 6⅝-in. 2,981 ft.; drlg. plug; filled up and headed in 12 hrs.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. Loc.

Gentex Oil Co. No. 1 Burch, Abst. 1770, T. J. Burch Sur. Set 5½-in. at 4,145 ft.; T.D. 4,364 ft.; 5¼-in. 4,085 ft.; recmtd. and W.O.C.

L. A. Long et al No. 1-B King-Wooten, Sec. 1969, T.E.L. Sur. 5½-in. 4,335 ft. collapsed; fsg.; T.D. 4,538 ft.; P.B. 3,900 ft.; drld. out to 4,150 ft. and perf csg. 3,960-80 ft.; to acd. L.; S.O. 3,922-90 ft.; tstg.; flwd. 7 B.P.H.; W.O.T.

Pitzer-West and Brazos-Young No. 1 F. Wray, Abst. 140, J. P. Hume Sur., 4,500-ft. test. T.D. 4,685 ft.; P.B. 4,030 ft.; W.O.C.

Stanley Thompson et al No. 1-A J. C. Vaughn, Blk. 3, T.&N.O.R.R. Sur., Abst. 1248; 4,250-ft. cable tool test. Drlg. 3,937 ft.

Taubert & McKee Drlg. Co.'s No. 1 Shanafelt, P. Pointevent Sur., Abst. 1309. Drlg. 3,704 ft.

Trentman, Nunnelly & Rankin No. 1-B Henry Brashears, Sec. 1974, T.E.L. Sur. 6⅝-in. 3,980 ft.; L.S.O. 3,980-4,022 ft.; 12 B.O., 100 B.W. in 12 hrs.; S. D.O.

EAST TEXAS

(Border Counties)

Cass County

G. Scott Hammon's No. 1 Price, C S½ W 40 ac., 125-ac. tr., Chas. Ames Sur. 10¾-in. csg. 1,045 ft.; drlg. sh.& L. 5,107 ft.

Marion County—Other

Otto Davis' No. 1 Hart, Gaines Coore Sur. Set 10-in. csg. 22 ft.; W.O.C.

M. D. Fitzwater No. 1 Mrs. Mary Duncan Jesse Fitzgerald Sur. T.D. 2,598 ft.; swbd. and bailed dry; W.O.

J. M. Horn No. 1 W. Taylor, 450 ft. EL. midway N and SL, B.B.B.&C.R.R. A-54 Sur. Set 6-in. csg. 2,289 ft.; T.D. 2,313 ft.; pulled lnr.; C.O.

Marion County—Rodessa

Gulf Oil Corp.'s No. 2 C. W. Ray, 2,825 ft. SL, 519 ft. WL, J. Hanks Sur. 13⅜-in. csg. 125 ft. and 9⅝-in. csg. 1,937 ft.; drlg. sh.&L. 5,350 ft.

Panola County

Turner & Smith No. 1 Panola Dev. Co., 2,500 ft. NL, 1,000 ft. WL, Gillespie Sur. Set 10¾-in. csg. 6,000 ft.; T.D. 5,050 ft., gas and dist.; rng. csg.

Shelby County

Natural Gas Dist. Corp.'s No. 1 W. B. Childress, 1,000 ft. W of Redditt & Gray's No. 2 Pickering, W. M. Snider Sur. M.I. rig.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. D. Bruce's No. 1 L. S. Mauldin, SW¼ Sec. 15, H.&T.B. Sur., Abst. 464. Drlg. 1,672 ft.

J. L. Derrich No. 1 C. V. Harris, Sec. 617, Prosper Mangle Sur. Drlg. 1,910 ft.

Kynaston & Cullison's No. 1 L. A. Hill, SW Sec. 35, H.T.&B. Sur. Drlg. 261 ft.

C. C. Lockwood's No. 1 T. B. Landreth, SE cor. of Subdivision 2, J. Dickinson Sur. 10. Drlg. 598 ft.

Wilson Oil Co., Inc., No. 1 M. Bowden, Sec. 138, W. E. Gilliland Sur. Drlg. 1,512 ft.

Callahan County

Bayou Oil Co. No. 1 W. E. Jones, Sec. 84, Comal Co. Sch. Ld. Sur. Loc.

Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Ld. T.D. 2,104 ft.; moved off mach.; may move on rotary to D.D.

S. Henderson et al's No. 1 I. N. Jackson, SW¼ Sec. 20, E.T.R.R. Sur. Drlg. 386 ft.

T. S. Holden's No. 1 Nichols et al, 5 mi. SE of Cross Plains. Spud.

Kendrick & Van Zandt's No. 1 A. W. Johnson, SE cor NE¼ Sec. 62, L.A.L. Sur. Drlg. 912 ft.

M. M. Little et al No. 1 W. P. Ledbetter, Sec. 4, NW M. Cherry Sur. Drlg. 1,329 ft.

J. L. Reeves et al's No. 1 P. G. Hatchett, NW¼ Sec. 30, D.&D.A. Sur. Drlg. 211 ft.

Hal Wagnon et al's No. 1 Wm. Isenhower, Sec. 304, Blk. 5, S.P. Sur. S.D.O. 550 ft.

Coleman County

B. Banner's No. 1 R. R. Powell, NW part of Moses Little Sur. No. 40. Loc.

Coleman Oil & Gas Co.'s No. 1 G. Powell, SE part of Moses Little Sur. No. 40. Loc.

Cooper Oil Co.'s No. 1 J. P. McCord, Sec. 519, San Augustine Sur. T.S. 3,975 ft.; P.B. 3,975 ft.; flwd. 30 B.O.P.D.

Kynaston-Culberson-Culberson & Bozeman No. 1 J. P. McCord, Sec. 159, J. W. Meeks Sur. U.R. 10-in. 2,170 ft.

A. R. Pruitt No. 1 Y. B. Johnson, J. W. Hicks Sur., Abst. 265. Drlg. 450 ft.; no report.

Comanche County

J. W. Cawley et al No. 2 A. K. Anderson, SE Subd. 6, Lampasas C.S.L., Sec. 34, Abst. 608. S.D.; sd. 601-06 ft., may shoot.

Concho County

Natural Resources Corp. No. 1 Armor, Sec. 105, Blk. 72, T.&N.O. Sur. S.D.O. 1,216 ft.

Coryell County

W. E. Crews' No. 1 S. C. Blanchard, W part of Wm. H. King Sur., 2 mi. SW of Mound, 5,000-ft. test. Loc.

Eastland County

R. R. Groce's No. 1 J. M. Rush, Sec. 130, Blk. 3, H.&T.C. Sur. S.D.O. 1,728 ft.

Sec. 87, Blk. 4, H.&T.C.R.R. Sur. R.U.

Lone Star Gas Co.'s No. 1 F. J. Kimmel.

J. L. Reeves No. 1 J. V. Parker, NW part of Wm. Van Norman Sur. Drlg. 2,412 ft.

W. A. Stiles et al's No. 1 H. F. Duncan, Sec. 10, Blk. 2, H.&T.C.R.R. Sur. Pits.

Erath County

Wayne Chandler's No. 1 Chandler, J. W. Moore Sur., Abst. 571. Fsg. 4,794 ft.

T. Gray's No. 1 C. Young Hrs., NW cor. of Stephen Smith Sur., Abst. 682. Drlg. 108 ft.

T. G. Jackson No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. Drlg. 1,527 ft.

J. F. Monissey et al's No. 1 R. J. Sikes, J. Hargrave Sur., 6 mi. N of Stephenville; (5,000-ft. test); S.D.O. 260 ft.

Hamilton County

Wallace & Vickers' No. 1 C. C. Lund, J. P. Bailey Sur. 51. Fsg. 3,453 ft.

Haskell County

P. S. Kendrick No. 1 T. G. Hendrick, NW part of Sec. 1, A.B.&M. Sur. Drlg. 2,840 ft.

Hood County

D. S. Sowell's No. 1 Burton, L. Campbell Sur. S.D.O. 4,380 ft.; may deepen.

Jones County

Healey & Walters' No. 1 Warren, D. P. Rowland Sur. Spd.

Jones & Stasney No. 1 Muehlstein, Sec 28, D.&D.D. Lds. T.D. 2,816 ft.; U.R. 6⅝-in. csg.

N. H. Martin & Sons No. 1 Wirt Davis, SW Subd. No. 7, F. M. Smyth Sur. No. 3. S.O. est. 90 B.O.P.D.; C.O. after shot 1,708-13 ft.

Keeler's No. 1 Radford, SE¼ Sec. 20, Blk. 4, H.&T.C.R.R. Sur. S.D.O. 3,274 ft.

J. M. Radford Gro. et al's No. 1, Sec. 21, Blk. 4, H.&T.C.R.R. Sur. Spd.

A. H. Tarver No 1 A. S. Barkley, Sec. 54, Deaf and Dumb Asyl. Lds. S.D.O. 5,118 ft.

Ungren & Frazier's No. 1 J. W. Barnes, N 80 acres of SE¼ Sec. 48, Blk. 15, T.&P. Sur. Drlg. 1,018 ft.

Mills County

D. Lane's No. 1 J. W. Spinks, J. Douglas Sur. 5, S.D.O. 1,780 ft.

Nolan County

Green & Owens' No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Drlg. 4,922 ft.

Plymouth Oil Co. No. 1 F. M. McClure Sec. 49, Blk. 23, T.&P. Sur., 8,000-ft test. Drlg. 3,728 ft.

Palo Pinto County

Crow & Sons' No. 1 H. Belding, SW cor. Sec. 103, B.B.B.&C. Sur. Loc.

W. K. Gordon No. 1 W. R. Ringe, Sec. 81, Blk. 2, T.&P. Sur. Drlg. 2,300 ft.

Hickock & Reynolds No. 1 R. H. Gouldin, L. P. Elder Sur., Abst. 1474. Drlg. 2,319 ft.

Parker County

Brown & Gardner Bros. No. 1 Gilbert, T.&P. Sur., Abst. 1958. S.D. 2,680 ft.; repairs.

Shackelford County

Dean Bros.-A. W. Adkisson No. 1 W. P. Newell, SW¼ Sec. 114, E.T.R.R. Sur Oil sd. 1,427-42 ft.; S.D. test.

Fain & McGaha Oil Corp.'s No. 1 Dawson-Conway, SE cor. P. G. Holcomb Sur., Abst. 1424. Drlg. 1,172 ft.

J. L. Hart's No. 1 E. O. Beck, Sec. 159, B.B.B.&C. Sur. (outpost test to Ivy pool). Loc.

Honea, West & Yates' No. 1 Martin, NW outpost to Ivy pool. Drlg. 2,416 ft.

Owens-Snebold Oil Corp.'s No. 1 E. P. Olsen, SW¼ Sec. 163, B.B.B.&C. Sur. (1 mi. SW of Ivy pool). Loc.

C. R. Schuster No. 1 L. E. DeWitt, Blk 56, Univ. Lds. S.D. 3,040 ft.; wtr.

Stephens County

Geo. E. Fagg No. 1 Richardson, Sec. 4, Blk. 31, S.P.R.R. Sur.; 4,000-ft. test. Drlg. 2,010 ft.

T. G. Shaw, Tr.'s No. 1 S. P. Stroud, NW¼ of G. Newton Sur. Abst. 128. Drlg. 650 ft. in new hole 20 ft. S.

A. G. Swanson No. 1 Veale-Frost, Sec 37, Blk. 8, T.P. Sur. Drlg. 3,200 ft.

Whittmer Oil & Gas Properties' No. 1 Loving, Sec. 66, B.A.L. Sur. Swbd. and tstd. 160 bbl. oil in 5½ hrs. through 2-in. tbg.; flwd. 100 B.O.P.H. for 3 hrs.; est. 1,000 B.O.P.D. at 3,492-3,512 ft.

Stonewall County

L. Clark et al's No. 1 M. R. Neatherly, Sec. 53, Blk. D, H.&T.C.R.R. Sur. Drlg. 1,912 ft.

Shell Oil Co., Inc., No. 1 A. E. Smith, Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000 ft. test. Drlg. 2,472 ft.

Taylor County

Sprotex's No. 1 A. L. Pittman, NW¼ Sec. 29, B.A.L. Sur. Drlg. 918 ft.

Rocky Mountain Runs

Production estimates for week ended September 23:

WYOMING

	Barrels
Salt Creek	15,770
Big Muddy	1,200
Byron	1,070
Dallas Derby	450
Elk basin	590
Frannie	920
Garland	2,420
Grass Creek	1,700
Hudson	250
La Barge	980
Lance Creek	20,470
Lost Soldier	1,360
Mahoney	290
Medicine Bow	1,620
Oregon basin	3,850
Osage	800
Quealy dome	620
Rock River	3,080
Wertz	2,830
Miscellaneous	610
Total Wyoming	60,880

MONTANA

Border	90
Cat Creek	570
Cut Bank	9,900
Dry Creek	1,040
Kevin-Sunburst	4,180
Pondera	720
Total Montana	16,500

COLORADO

Florence	160
Fort Collins and Wellington	310
Wilson Creek	320
Iles dome	1,860
Moffat	320
Rangely	60
Tow Creek	140
Price	440
Total Colorado	3,610

NEW MEXICO

Cooper	3,710
Eaves	770
West Eunice	130
Eunice	19,330
Hardy	3,400
Hobbs	9,560
Jal	530
Langlie	4,680
Lynch	430
Lynn	820
Mattix	4,570
Monument	20,150
North Lynch	30
Penrose	4,770
Rhoades	130
Skaggs	110
Skelly	1,640
South Eunice	3,620
South Lovington	760
Vacuum	9,700
Artesia-Maljamar	10,030
Getty	100
Hogback	200
Rattlesnake	580
Table Mesa	90
Total New Mexico	99,840
Total Rocky Mountain area	180,830

Personal Paragraphs

EDWIN B. ECKEL, formerly associate geologist with the U. S. Geological Survey, has been appointed to the staff of Purdue University under DR. JOHN L. BRAY, professor of metallurgy.

DON W. JOSEY and CLINT W. JOSEY, vice presidents of Rancho Oil Co., Dallas, Tex., and MONROE H. GOODE, Dallas, independent oil man, left Wednesday, September 27, for southwestern New Mexico on a big-game hunt. Armed with rifles, lariats and cameras, the hunters will match their skill with bears, wildcats, mountain lions and antelopes. Guide for the hunters, who hope to bring something back alive, possibly for the Marsalis Zoo, Dallas, will be George W. Evans, noted bear and mountain-lion hunter.

HARRY L. BALDWIN is doing geological work in Argentina for Yacimientos Petroliferos Fiscales.

A. E. CRUMLEY and W. C. McKNIGHT, independent producers of Kevin, Mont., left for a three-week fishing expedition in Idaho.

MERWIN G. EDWARDS, of Shell Oil Co., Inc., formerly district superintendent of operations in the Long Beach field, California, has been appointed manager of operations for the same district.

E. H. MOORE, Oklahoma City, Okla., made a hurried trip to his properties in the Santa Maria Valley field, California, last week in connection with disposition of crude oil and the probable development of a market.

PHILIP SUBKOW, patent counsel of Union Oil Co. of California and in charge of the company's patent department for the past 12 years, will resign October 1 to enter private practice. He will continue to handle patent cases for Union Oil Co.

MAJ. ROY F. BRITTON, president of the Missouri Automobile Club, in an address before the North American Gasoline Tax Conference meeting in Minneapolis, Minn., declared gasoline taxes, once popular, have been falling from grace. "Diversion to purposes other than highway building and maintenance has aroused resentment," Major Britton said. "Motor-vehicle owners were assured the revenue would be used exclusively for highway purposes, but it is devoted to all sorts of purposes."

DR. GUSTAV EGLOFF, research chemist, Chicago, will speak before five local sections of the A.I.M.E. in a western tour which he will make the week following Thanskgiving Day. His subject will be "Internationalism and Liquid Fuels."

D. T. McIVER has been appointed assistant to the president of Freeport Sulphur Co. Mr. McIver, a native of Texas, has been assistant general manager, with executive duties, since 1933, being stationed in New Orleans, La. He joined the company 16 years ago in the production department at Freeport, Tex. In 1930 he was placed in charge of lands and leasing development. In his new capacity Mr. McIver will continue to serve as assistant general manager.

PATRICK CLANCY, ELMER CAMERON, and "CURLY" YOUNG left Black Diamond, Alta., recently for Trinidad under 3-year drilling contracts with Trinidad Petroleum Co.

N. H. DARTON, geologist with the U. S. Geological Survey, has been making a tour of central Europe, accompanied by Mrs. Darton. He planned to return to Washington, D. C., this month to continue his investigation of the structure of part of the Atlantic Coastal Plain.

B. D. ROBERTSON, in the marine department of Standard Oil Co. of California, in San Francisco, Calif., has been appointed to the American Petroleum Institute's special committee on water regulations. The committee was appointed early in 1939 to recommend changes in the new marine regulations proposed by the Bureau of Marine Inspection and Navigation, of the Department of Commerce. These regulations govern the packing, marking, and transportation of dangerous articles. Appointment of Mr. Robertson rounds out the committee by giving representation to the important Pacific Coast section of the petroleum industry. Other members are: D. V. STROOP, chairman; A. D. MURPHY, Standard Oil Co. of New Jersey, Bayonne, N. J.; H. A. SAFFER, Socony-Vacuum Oil, Inc., New York; D. F. SALLOWS, Standard Oil Co. of New Jersey, New York; X. R. SMITH, Atlantic Refining Co., Philadelphia, Pa., and R. J. WALSHE, Texas Co., New York.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Daniel Moran, a rising young oil man, and son of Martin Moran of the Texas Co., is visiting his parents in Tulsa. Young Mr. Moran recently returned from South America.

Maj. Daniel C. Boggs, 96, pioneer oil producer, and the father of four sons well known in the industry, dies in Pittsburgh, Pa.

The Oklahoma Corporation Commission, having rescinded its order to the Prairie Oil & Gas Co. forbidding it to pay less than 65 cents per barrel for Oklahoma crude oil, the Prairie company has resumed crude purchases at 55 cents per barrel. Much Oklahoma oil is being bought by other purchasers at from 35 to 50 cents per barrel. It is said that 5,000,000 bbl. of Cushing oil is going on the market at prices below 40 cents per barrel.

20 YEARS AGO

An 8-hour day and a regulated wage scale in effect in the California oil fields calls for a minimum of $5 per day for laborers and $8.75 per day for drillers, with a bonus of 25 cents a day if the drillers remain a year with the company. Pipe-line workers and refinery workers receive a maximum of $7 per day.

Thomas (Yank) Murphy, 83, who successfully drilled for oil in the Burning Springs district in West Virginia in 1859, dies in Parkersburg, W. Va. The well is still producing a small quantity of crude 60 years later.

10 YEARS AGO

The East Earlsboro pool in Oklahoma and the Valley Center pool in Kansas have been curtailed to 50 per cent of their potential output. Oklahoma is producing 662,000 bbl. per day, a voluntary cut of 110,000 bbl. per day.

G. L. GANO and P. T. THIBODAUX, of Arkansas Fuel Oil Co., Shreveport, La., were recent guests on a Gulf yacht trip given by Texas Co.

LESTER H. HILYARD, driller for California Arabian Standard Oil Co., has delayed his departure for Saudi Arabia, due to the war but is now making preparations for an early return to that site of field activity.

H. K. PHELPS, JR., of Shreveport, La., was named trustee of the Atlas Pipeline Corp., following reorganization under the Bankruptcy Act. He was receiver for the company until last week when offer of its properties at auction brought no results.

A. T. MAST, of Nacogdoches, is president, and O. B. SILER, vice president, of the Natural Gas Distributing Corp., which is drilling a well in the Joaquin gas-condensate field of Shelby County, Texas, and laying a 31-mile gas line to Garrison.

JERRY SADLER, member of the Texas Railroad Commission, has announced he will oppose GOV. W. LEE O'DANIEL for reelection if the latter persists in advocating a sales tax to finance social security. "I think Governor O'Daniel is honest, sincere and conscientious in his program," said Mr. Sadler, "but that his faith in human nature and his inexperience in dealing with the vultures of the North and East has caused him to be misled in his program." Mr. Sadler has been mentioned as a possible candidate for governor, but this was his first statement that he might run.

T. E. MOBLEY, vice president of Standard-Vacuum Oil Co., New York, has returned from a trip to the Pacific Coast.

WILLIAM W. CLINE, vice president of Rocky Mountain Drilling Co., has moved from Wyoming to Bakersfield, Calif.

LON H. CRON and E. J. GRACEY, drilling contractors of Houston, Tex., have joined with W. H. MARTIN to form Cron & Gracey Drilling Corp.

P. E. HARALSON, land man for Magnolia Petroleum Co., Dallas, Tex., has returned from a vacation trip to Yellowstone National Park and other points in the Rocky Mountains.

C. P. CHASTON, British Columbia credit manager of Shell Oil Co., Inc., has been elected president of the British Columbia branch of the Canadian Credit Men's Trust Association.

B. F. CORNELL, general attorney and representative of the Colombian Petroleum Co., in Bogota, Colombia, sailed from New York last Friday for South America, accompanied by Mrs. Cornell.

DWIGHT J. EDSON, president of Edson Petroleum Co., Houston, Tex., and HUBERT E. CLIFT, independent operator of Houston, were guests last week of RALPH H. LEFTWITCH, San Angelo, Tex., independent operator. The three spent their time in dove hunting.

HENRY ROGATZ, consulting geologist of Amarillo, Tex., recognized authority on the geology of the Texas Panhandle region, will address the first fall meeting of the Panhandle Geological Society on Thursday evening, September 28, in Amarillo. Subject of the address will be the Geology of the Texas Panhandle.

Found Oof Bird in Well

Frederick R. Burnham, vice president of Dominguez Oil Fields Co., formerly Burnham Exploration Co., and president of the Southwest Museum, Los Angeles, crossed continents more than 30 times, hunting what he called the oof bird. He found it in the Dominguez oil field at 4,000 ft. Mr. Burnham, known among his friends as "Major," was a scout in the Matebele War in Rhodesia, and he killed M'Lino, the Matebele high priest, hastening the end of the conflict.

FREDERICK R. BURNHAM

The British Government, in recognition of exceptional service, gave him and his companions 300 sq. miles of land in Rhodesia. He discovered in the granite ruins of an ancient Rhodesian civilization gold and jewelry predating the Christian era. He led an exploratory expedition in Barotseland, preliminary to building of the Cape-to-Cairo railroad; he explored a vast region along the Congo Basin and the head of the Nile, and he hunted gold in the Klondike.

Mr. Burnham fought in the Boer War and upon being wounded was invalided to England, where he dined with Queen Victoria and was made a member of the Distinguished Service Order by King Edward.

Son of a missionary, Mr. Burnham was born in 1861 on the Winnebago Indian reservation in Minnesota. At 13 he became a mounted messenger for the Western Union when its first telegraph line reached Los Angeles. At 22 he married Miss Blanche Blick, of Iowa, who accompanied him through the Matebele and Boer wars.

PIET SCHOUTE, exploration engineer for Bataafsche Petroleum Mij., left Los Angeles, Calif., recently on a Japanese liner for the Dutch East Indies.

ADRIAN MOORE, independent operator of Houston, Tex., has returned from a 3-month vacation at Winston-Salem and Roaring Gap, N. C.

L. B. JACKSON, Tulsa oil operator, and Mrs. Jackson returned last Saturday from their cabin at Park Rapids, Minn., where they had passed the summer.

JACK W. HERBERT, independent operator of Fort Worth, Tex., has returned after spending the past 2 months in San Francisco, Honolulu, Alaska and New York.

S. L. McDOWELL, production superintendent for Aloco Oil Co., Dallas, Tex., left last week for a 3-week vacation trip through South Texas and along the Gulf Coast.

MIKE HOGG, Houston, Tex., was named president of the newly chartered Hogg Oil Co., and he will direct the company's operations in developing the Hogg estate at the old West Columbia field.

JOHN T. WARD, who was in charge of the development of catalytic processes for M. W. Kellogg Co. in Europe, is back in New York. Mr. Ward has been elected a fellow of the Institute of Petroleum.

C. R. McKNIGHT, geologist with the Arkansas Fuel Oil Co., Shreveport, La., will teach geology at Centenary night school for the coming season. Other instructors from the industry in Shreveport are H. W. BELL, engineer for Rodessa Operators Committee, production, and A. W. TRUSTY, chief chemist with Arkansas Fuel Oil Co., refining.

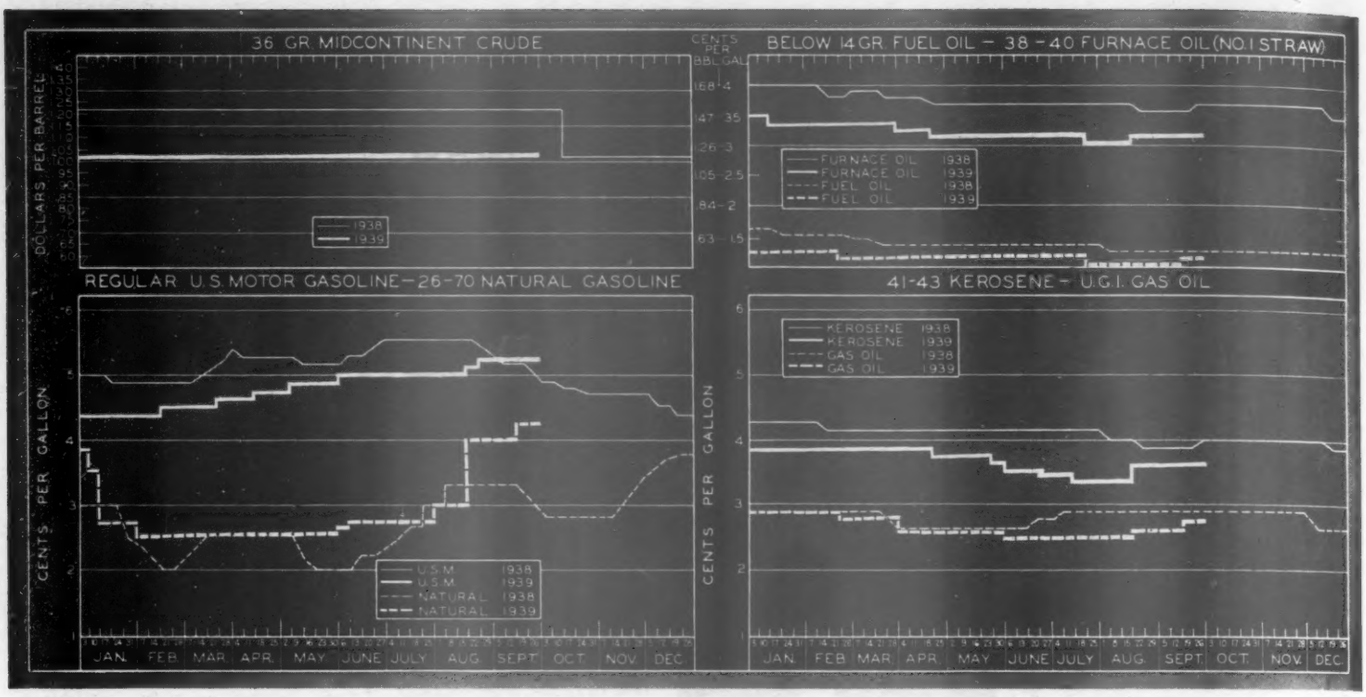
Shifts: HENRY R. KIMBLE, geologist, Magnolia Petroleum Co., from Watonga, Okla., to Dallas, Tex.; J. O. GARRETT, engineer, Big Lake Oil Co., from Texon, Tex., to Corpus Christi, Tex.; J. F. DARBY, president, Darby Linde Co., from Colorado Springs, Colo., to Muskogee, Okla.; J. S. WALTON, engineer, Standard Oil Development Co., from Westfield, N. J., to Iowa City, Iowa; A. L. BRADEN, treasurer, Major Oil Co., from Zwolle, La., to Evansville, Ind.; PAUL R. JOHNSON, president, Union Gas System, Inc., from Parry Sound, Ont., Canada, to Independence, Kans.; W. E. WILLIAMSON, chemist, O. C. Field Gasoline Co., from Huntington Beach, Calif., to Montebello, Calif.; R. N. BILLS, engineer, Amerada Petroleum Corp., from Lake Charles, La., to Amite, La.; H. F. GIBSON, drilling contractor, Gibson & Jennings, Inc., from Mount Vernon, Ill., to Sandoval, Ill.; R. C. WARD, geologist, Superior Oil Co., from Evansville, Ind., to Houston, Tex.; L. J. PALMER, drilling contractor, from Owensboro, Ky., to Percilla, Tex.; PARKE A. DICKEY, geologist, Penn State Geological Survey, from Titusville, Pa., to Pleasantville, Pa.; WILLIAM C. RODGERS, engineer, Phillips Petroleum Co., from Bartlesville, Okla., to Oklahoma City, Okla.; J. E. BACKMAN, geologist, Gulf Research & Development Co., from Ardmore, Okla., to Weatherford, Okla.

E. B. REESER, president of Barnsdall Oil Co., and Mrs. Reeser are back at their home in Tulsa from a trip to Los Angeles, Calif. They were accompanied on their return by Mrs. Ellen Isherwood, Mrs. Reeser's mother, who had spent the summer in California.

GEORGE W. COLDSNOW, since 1933 manager of the Minneapolis, Minn., sales division of Standard Oil Co. of Indiana, has been made manager of the LaCrosse, Wis., division to succeed H. H. KEATINGS, who is retiring after 32 years' service. W. T. BANNISTER, for the last three years manager at Green Bay, Wis., has gone to Minneapolis as manager there. W. J. DUNCAN, manager at Mankato, Minn., succeeds Mr. Bannister. H. H. HATHAWAY, Quincy, Ill., manager, will take over at Mankato. R. T. KINNEMAN, assistant manager at Des Moines, Iowa, becomes Quincy manager.

CHARLES F. ROESER, president of the Independent Petroleum Association of America, addressed the Fort Worth Geological Society Monday, September 25, on current conditions in the oil industry and the effect of recent national and state events on that industry. The meeting was the first of the society's new fall programs.

ED TYRE is chairman of the committee which is arranging for the oil men's annual golf tournament to be held in connection with the Texas Mid-Continent Oil and Gas Association convention in Houston, Tex., October 5 to 7. The W. B. Hamilton cup will go to the player with the lowest net score. "Some of the best amateur golfers in Texas are oil men," Mr. Tyre said. "We have a fine list of prizes with awards for all phases of play. Aside from the Hamilton trophy there will be no duplication of awards." The committee appointed to draft rules and regulations governing this year's play includes JAKE L. HAMON, chairman; R. S. McFARLAND, Dallas; RODNEY DeLANGE, San Antonio; J. A. NEATH, Houston; W. A. MONCRIEF, Fort Worth; BRYAN PAYNE, Tyler.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Lubricants Buoyant in Group 3 Area and All Divisions Making Gains

By T. F. SMILEY

Lubricating oils advanced in spectacular fashion in the Group 3 market during the past week, and there was not a weak spot in the whole list of petroleum products. Wax was exploring altitudes it had not reached before in years. Motor fuel waited only for an advance in tank-wagon prices to touch off a rise in tank-car quotations. Heating oils and kerosene were gathering strength. There was a place for every gallon of natural gasoline to go.

Lubricants in Sudden Rise

For 2 years the lubricants had been kicked about, without a friend in the Mid-Continent market. Their sudden ascent to leadership has been remarkable. Six weeks ago, for example, 150-160 D bright stock, 15-25 pour point, was offered at 11 cents. This week that material was selling at 19 cents, with the other grades in proportion. All the surplus stocks of lubricating oils that had clogged the market were gone. Scarcity had supplanted excess with breath-taking swiftness. While bright stocks had been advancing 6 to 8 cents since mid-August, neutrals had gone up 4 cents in the same period.

Inquiries were arriving from various foreign countries, but domestic demand was urgent too. With prices soaring, buyers were anxious to lay in supplies. Inventories melted rapidly. Some refiners quit quoting prices, devoting their attention to taking care of regular customers. At least one major company was reported to be buying.

Wax was second only to the lubricating oils in market vigor. One large Mid-Continent manufacturer, receiving an export inquiry for 124-126 white crude scale, offered it at 3¾ cents. He had no idea he would receive the order and didn't want it. To his astonishment he got the business promptly, with a plea for further shipments. An inquiry for petrolatum came from Moscow.

The naturals were exhibiting in increasing degree the strength that had characterized them for weeks. A survey showed that more than 100,000 bbl. had been sold to Gulf Coast refiners in the past week for delivery by October 10. Natural gasoline is becoming a more important factor daily in the motor-fuel market, and it is regarded as pretty much the key to the export and coastwise trade. Gulf Coast refiners, now heavy purchasers, hesitate to bid on motor fuel till they are assured of the natural necessary for blending. Few export inquiries are coming direct to manufacturers. Such cargo shipments as they are making are probably all on contract. Although the demands on manufacturers are extremely brisk, they are keeping the market in hand by careful and equitable distribution of their output.

Some Refiners Short of Gasoline

Gasoline was firm, with no overheavy inventories in sight anywhere in the Mid-Continent. Failure of the country's total stocks to go below the levels recorded at this time last year seemed to cause little concern. With domestic requirements heavy and a widely prevalent opinion that European demand would develop within a few months, the trade was in no mood to get panicky over big inventories. Anyway, these inventories were not in the Mid-Continent area, where some refiners said they were at tank bottoms. Among buyers was one of the largest refiners in the Mid-Continent, and it was meeting difficulty in uncovering material.

Heating oils were strong and getting stronger. Although some refiners said orders were not arriving in such a flood as they did a week or two earlier, buyers reported their inquiries brought out a declining number of offerings. A slight lull in this division of the market was bound to follow the heavy buying done early in September, refiners said. Furthermore, with a tightening market in prospect, those who had fuels were in no hurry to part with them.

Refined Oil Market Barometer

Export demand for lubricating oils is causing swift rise in prices. Wax is feeling the bracing effect of foreign requirements. Strength of other products is less directly traceable to oversea needs. Failure of gasoline to go higher is attributed to the need of better tank-wagon prices and to the slow decline in total stocks.

MID-CONTINENT. Lubricating oils soaring. Gasoline firm. Naturals and wax strong.

EAST COAST. Gasoline vigorous. Kerosene gaining. Bunker C fuel oil scarcer.

GULF COAST. Kerosene stronger and getting scarce. Lubes higher. Gasoline firm.

CALIFORNIA. Fuel oil and diesel slightly firmer. Gasoline unchanged. Market irregular.

PENNSYLVANIA. Neutrals and bright stocks buoyant. Gasoline steady.

CHICAGO. Gasoline steady. Kerosene improving. Heavy fuel oil in active demand.

Eastern Coast Gasoline Market Follows Stiffening on Gulf

By H. STANLEY NORMAN

NEW YORK, Sept. 26.—The upward surge of petroleum prices on the Gulf and East coasts continued last week, despite the almost complete absence of new business directly traceable to European war activities. Refiners are still attempting to gage the trend of prices and probable requirements to avoid disposition of products on a climbing market, and consequently are disinclined to accept delivery instructions from other than contract or long-time customers in need of materials.

Only strictly limited quantities of tank-car gasoline (65 octane) are now available on the East Coast at 6½ cents. Despite persistent rumors that a little business can be done in certain directions at 6¼ cents for 65-octane motor fuel in tank cars, investigation failed to locate such supplies and the consensus is that a minimum of 6½ cents now prevails, with almost certain prospects that 6¾ or 7 cents will prevail within another week.

Behind the improvement in East Coast gasoline prices is a stiffer front on the Gulf Coast where most refiners are quoting 6⅜ cents, although some are willing to accept a little business at 6¼ cents. Considering the tanker-charter rate from the Gulf to north-of-Hatteras at approximately 28 cents per barrel, a price of 7 cents at New York on 65-octane motor fuel would appear to be the absolute minimum at which distributors in this area could market in tank cars.

At a cost of 6¼ cents at the Gulf and 28 cents per barrel for tanker chartering, the cost in New York is about $2.905 per barrel, while a price of 7 cents would net only $2.94 per barrel under the outlined circumstances. The hypothetical figures are not necessarily representative of all current business, because of contracts between Gulf suppliers and East Coast customers and because of long-term charter practices made at times when rates were considerably lower than at present.

Aviation gasoline is practically unavailable in the open market. In the few isolated instances when 73-octane aviation gasoline appears on the market it is currently picked up immediately by refiners short on this product. The cargo price for aviation gasoline is considered to be 8 to 8¼ cents per gallon. Part of the current shortage in high-octane motor fuel is a result of the production shutdown in August. While refiners on the Gulf and in the Mid-Continent were maintaining their overall runs at approximately normal rates, it was impossible to process selected crudes and, in turn, to produce the finished products in the quantities desired.

Lubricating oils, all classes of fuel oils and wax were other products feeling the stronger market in the northeastern section of the country last week. Tank-wagon kerosene prices were advanced generally a quarter of a cent per gallon throughout the New York and New England marketing territory of Socony-Vacuum Oil Co., Inc., September 20. Exception was made for most western New York points where an advance was made in the preceding week, and at Boston, Mass., where the raise was a half cent. At the same time, the company elevated kerosene and No. 2 fuel-oil prices an eighth of a cent in the tank-car market, but this upturn had been presaged a week earlier by a similar advance on the part of most other suppliers in this territory.

The current tank-car kerosene price in New York is 4¾ to 5 cents per gallon with a majority of suppliers quoting 4⅞ cents.

The advance of an eighth of a cent per gallon for No. 2 fuel oil brought the top tank-car price to about 4⅜ cents, although some suppliers are offering limited quantities at 4¼ cents per gallon. The Gulf Coast market for No. 2 fuel oil is generally considered here to be approximately 3⅞ to 4 cents per gallon, although some refiners last week reported that 4⅛ cents was their minimum price for cargo lots.

Bunker C fuel oil was reported scarce on the East Coast market last week despite an advance on September 18 of 10 cents per barrel. The market of $1.15 per barrel existing at Philadelphia, New York, Boston, Providence, and Norfolk failed to stimulate the flow of Bunker C fuel oil into channels of distribution. Reluctance of refiners to assume a more liberal attitude in the movement of Bunker C fuel oil is partly because of a report current in the trade that the French Government is attempting to contract for about 1,300,000 bbl. of material for delivery over remainder of the year.

The Gulf Coast cargo market for Bunker C fuel is reported between 85 and 90 cents per barrel, with only one refiner in position to make strictly limited deliveries at the lower of the two figures. The tank-wagon market for industrial fuel oil has shown a distinct improvement in this territory since the upturn of the general market early in September. During the latter part of August and the first 10 days of September, industrial fuel oil was available in some directions on the East Coast at 2¾ cents per gallon, but the price most generally quoted last week was 3⅛ cents.

Contract customers for Bunker C fuel oil report that normal sources of supply are limiting 1940 contracts to a period of 6 months in most instances, and some are unwilling to accept business for terms of longer than 90 days. For the comparatively short-term contracts suppliers are inserting a top price of $1.35 per barrel, up 20 cents from the currently prevailing market.

Brokers are extremely active on the inquiry side of the market, but refiners still report difficulty in sifting the firm interests from the speculative. There is a distinct disinclination to quote prices to little-known or unknown prospective purchasers. All suppliers are demanding complete information on the destination, terms, method of transportation and other details before making commitments. Many inquiries currently reaching the market have been found to rest on speculation and to represent the desire of brokers to obtain a commitment which may be, in turn, presented as a firm offer to a prospective purchaser abroad.

Market and supply conditions in the western Pennsylvania lubricating-oil refining district have been tightened another notch. Supplies are extremely difficult to locate since most of the refiners are prorating shipments to domestic contract customers and the market is up from 3 to 4 cents per gallon on neutrals and viscous bright stocks.

Neutral oils of 150 viscosity range from 21 to 25½ cents per gallon, depending on pour-test specifications, while the 200-viscosity grade ranges from 22 to 27½ cents. Bright stock, 145-155 viscosity, No. 8 color, is quoted, where available, at 22 to 28 cents per gallon, depending on pour test.

The export demand for lubricating oils from New York, as well as New Orleans and other Gulf Coast ports, has been extremely active since the last two weeks of August. Probably the best evidence of the demand for Pennsylvania lubricating-oil supplies is found in orders issued last week by South Penn and Tide Water that they would start accepting 100 per cent deliveries from their crude-oil connections. Action by South Penn

(Continued on Page 119)

A. P. I. Weekly Refinery Statistics

Week Ending September 23, 1939

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	551,000	19,351,000	12,640,000
Appalachian	85.9	117,000	2,569,000	618,000
Indiana, Illinois, and Kentucky	90.2	534,000	10,803,000	6,816,000
Oklahoma, Kansas, and Missouri	81.6	272,000	5,654,000	4,599,000
Inland Texas	50.3	110,000	1,512,000	2,312,000
Texas Gulf	90.0	879,000	8,898,000	13,004,000
Louisiana Gulf	97.6	121,000	1,924,000	2,911,000
North Louisiana and Arkansas	55.0	40,000	383,000	854,000
Rocky Mountains	54.2	57,000	1,066,000	667,000
California	90.0	533,000	13,900,000	93,283,000
Total reported	86.2	3,214,000	66,060,000	137,704,000
Estimated unreported	.....	356,000	4,960,000	3,265,000
*Estimated total	.....	3,570,000	71,020,000	140,969,000
*Estimated total previous week	.....	3,470,000	71,869,000	141,107,000
*September 24, 1938	.....	3,233,000	69,524,000	150,204,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ending September 16, 1939	233,016,000 barrels
Week ending September 9, 1939	233,826,000 barrels
Week ending September 17, 1938	280,945,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of September 26, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	13.6	4.0	10.0
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	13.6	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	9.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.0
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.1
Grand Rapids	14.0	12.5	4.0	9.7
Saginaw	15.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†10.7
South Bend	16.8	15.3	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.8
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.9	4.0	7.9
Wichita, Kans.	13.3	10.6	4.0	7.4

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes. Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective September 18, 1939, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5.25 cents; 400 gal. and over, 4.25 cents. Stanolex Grade B, 1-799 gal., 5.25 cents; 800 gal. and over, 4.25 cents. Stanolex Grade C, 1-999 gal., 4.5 cents; 1,000 gal. and over, 3.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Tank-wag. cons'r.	Divided dir.	Inc. tax	Kero. tank wag.
Ohio points	15.5	14.5	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons'r. tank car	Dir. tank wag.	Inc. tax	tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	7.25
Newark	11.6	12.7	4.0	7.25
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	7.0
Cumberland	13.65	16.15	5.0	10.0
Wash'gton, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	10.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	10.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.40	17.90	7.0	11.8
Hickory	15.95	18.45	7.0	12.3
Mt. Airy	15.80	18.50	7.0	12.2
Raleigh	15.15	17.65	7.0	11.5
Salisbury	15.45	17.95	7.0	11.9
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.10	17.60	7.0	11.5
Spartanburg	15.80	18.30	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gallons or more, consumer tank-wagon price. Single deliveries of less than 50 gallons, 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r. tank-wag.	Net dir.	Inc. tax	tank-wag.
Atlanta, Ga.	21.0	18.0	7.0	10.0
Augusta	20.5	17.5	7.0	8.5
Macon	21.0	18.0	7.0	10.5
Savannah	19.5	16.5	7.0	9.0
Birmingham, Ala.	21.5	18.5	8.0	9.0
Mobile	21.5	18.5	9.0	9.0
Montgomery	22.5	19.5	9.0	11.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	19.5	16.5	7.0	9.5
Jacksonville, Fla.	19.5	16.5	8.0	8.5
Miami	20.0	17.0	8.0	8.5
Pensacola	21.5	18.5	9.0	8.5
Tampa	20.0	17.0	8.0	7.0
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	18.5	15.5	6.0	9.0
Paducah	18.5	15.5	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937: 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	12.5	14.0	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	13.0	14.5	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.		14.0	5.0	10.5
Wilmington		13.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. *Voluntary discount of 1 cent allowed to dealers only.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Albany	11.9	14.2	5.0	7.50
*Met. N. Y.:				
Manhat., Bronx	11.9	13.4	5.0	7.25
Queens, Br'klyn	11.9	13.4	5.0	7.25
Staten Island	11.9	13.4	5.0	7.25
Buffalo	12.5	13.5	5.0	7.75
Rochester	12.8	14.0	5.0	8.00
Syracuse	12.4	14.4	5.0	7.75
Boston	10.8	12.5	4.0	7.25
Portland, Me.	11.8	13.8	5.0	7.25
Manchester, N.H.	12.5	14.5	5.0	7.75
Burlington, Vt.	12.4	14.0	5.0	7.75
Springfield, Mass.	11.5	12.5	4.0	6.50
Worcester	11.4	13.0	4.0	7.75
Hartford, Conn.	11.2	13.3	4.0	7.00
New Haven	11.1	13.01	4.0	6.50
Providence, R. I.	10.8	12.8	4.0	7.00

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1989, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gallons and under, tankcar price plus 2 cents per gallon; annual purchases 10,000 gallons up to 50,000 gallons, tankcar price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gallons, tankcar price plus 1 cent per gallon; annual purchases 200,000 gallons and over, tankcar price plus one-half cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gallons receive a discount of one-half cent per gallon.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-truck	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes .25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank-wag.	Dir.	Incl. tax	tank-wag.
Denver, Colo.	15.5	...	5.0	11.5
Grand Junction	18.5	...	5.0	15.0
Pueblo	16.0	...	5.0	9.0
Casper, Wyo.	17.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.5	...	6.0	13.0
Butte	20.0	...	6.0	15.5
Great Falls	19.5	...	6.0	15.5
Helena	20.5	...	6.0	15.5
Salt Lake, Utah	17.5	17.5	5.0	16.0
Boise, Idaho	20.6	20.6	6.0	18.0
Twin Falls	21.1	21.1	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	15.5	15.5	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of .5 cent. †Includes state tax of 1 mill.

Tank-wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
New Orleans, La.	17.25	19.75	*10.0	†11.0
Baton Rouge	15.25	17.75	8.0	‡10.5
Alexandria	15.25	17.75	8.0	‡12.5
Lafayette	15.00	18.00	8.0	‡11.0
Lake Charles	15.25	17.75	8.0	‡12.5
Shreveport	14.00	16.50	8.0	‡11.0
Knoxville, Tenn.	18.50	21.00	8.0	14.5
Memphis	16.50	19.00	8.0	11.0
Chattanooga	18.00	20.00	8.0	12.0
Nashville	17.50	20.00	8.0	11.0
Bristol	18.75	19.00	8.0	13.0

Essolene at dealer price less .5 cent per gallon to undivided dealers.

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon; 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank wag.
Omaha	17.5	16.0	6.0	10.5
McCook	16.5	15.9	6.0	9.0
Norfolk	17.0	15.9	6.0	9.0
North Platte	18.3	16.8	6.0	11.1
Scottsbluff	18.0	15.0	6.0	11.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Tnk.-wg. dlr.	Includes tax	tank wag.
Texarkana, Ark.	14.0	5.0	8.0
Fort Smith	15.5	5.0	7.5
Little Rock	17.25	7.5	8.0
Muskogee, Okla.	13.0	5.0	7.0
Oklahoma City	13.0	5.0	6.5
Tulsa	13.0	5.0	7.0

The tank-wagon price is the price to all classes of trade.

Texas

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Dallas, Tex.	14.0	18.0	5.0	7.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank wag.	Inc. tax	Kero. tank wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	22.0	8.0	14.5
Toronto, Ont.	23.0	8.0	15.5
Hamilton, Ont.	23.0	8.0	15.5
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	19.4	7.0	21.4
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of Louisiana September 12 advanced tank-car and tank-wagon gasoline .5 cent throughout Louisiana and Tennessee except in Bristol; September 13, advanced tank-car gasoline .5 cent and tank-wagon gasoline 2 cents in Bristol.

Standard Oil Co. (Kentucky) reduced consumer tank-wagon and net dealer gasoline 1 cent in Macon September 8 and in Jacksonville September 9. On September 19 advanced tank-wagon and net dealer gasoline as follows: Macon, 2 cents; Jacksonville, Augusta, Savannah, Birmingham, Mobile, Montgomery, Jackson, Vicksburg, Miami, Pensacola, Tampa, .5 cent; Atlanta, 1 cent; Paducah, 1.5 cents. September 19, advanced tank-wagon kerosene .5 cent in Macon, Birmingham, Mobile, Montgomery, Jackson.

(Continued on Page 119)

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of September 26, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.04⅞	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.04⅞	.05⅛
70-72 octane (regular)	.05¼	.05⅜
64-66 375		.04⅞
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.04⅞	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400	.04½	.04⅝
64-66 375		.04⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04⅝	.04⅞
63-66 octane	.05	.05⅛
67-69 octane		.05⅜
70-72 octane (regular)	.05¼	.05½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:	
62 octane and below	.04⅞
67-69 octane	no quotations
70-72 octane (regular)	.05¼

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05¼
70-72 octane (regular)	.05¼	.05⅜
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05¼
70-72 octane (regular)	.05¼	.05⅜
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04⅝	.04¾
65 octane	.06¼	.06½
68-70 octane	.06	.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06¼	.08
58-60 400, 65 oct. and higher	.07¼	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06¼	.06½
Philadelphia	.06¼	.06½
Baltimore	.06¼	.06½
Charleston, S. C.	.06¾	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05	.05½
65-67 octane	.05¼	.05¾
68-70 octane	.06½	.07

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.04¼
Grade 18-55	.05⅛

NORTH TEXAS—

Grade 26-70	.04¼
Grade 18-55	.05⅛

CALIFORNIA—

75-85 375-390	.05½	.06½

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.04⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 i.b.p., 480-max., e.p.	.03⅞	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

NORTH TEXAS—

41-43	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03½	.03⅝

ARKANSAS (Ark. and N. La. del.)—

41-43	.03⅝

PENNSYLVANIA (inland refineries)—

45	.04¾	.05
46	.05	.05⅛
47	.05	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05⅜

NEW YORK (Bayonne, N. J.)—

41-43	.04¾	.04⅞

***GULF COAST (domestic)—**

41-43		.04½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil		.03½
No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03	.03¼
No. 2 dark, 32-36	.02¾	.02⅞
No. 3 zero to 15, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03⅛	.03¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	no quotations

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03⅞
No. 1 prime white, 38-40	.03⅝	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03¼
No. 2 dark, 32-36	.03	.03⅛
No. 3, zero to 15, 28-32	.02⅞	.03
No. 3, 15 and above, 28-32	.02⅝	.02⅞

NEW YORK (Bayonne, N. J.)—

*No. 1		.04⅜
*No. 2		.04¼
*No. 4		.03⅝

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4 low pour point, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.45	.50

NORTH TEXAS—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low pour point, 24-28	.95	1.00
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.45	.50

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low pour point, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pour point, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04¼	.04⅝

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.30
24 plus diesel, per bbl.	.80	1.15
24 plus diesel (bunkers)	1.15	1.30
12-16 (bunkers at tidewater)	.70	.90
10-16 (cargo lots)	.60	.70
12-17 (tank cars)	.50	.90
10-17 (high sulfur)	.45	.85
San Joaquin Valley:		
10-18 (tank cars)	.50	.75
24 plus diesel, per bbl.	.90	1.20
San Francisco:		
24 plus diesel, per bbl.	1.30	1.45
24 plus diesel (bunkers)	1.35	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.04¼
43-47 diesel		.03½
48-52 diesel	.03¼	.03⅜
53-57 diesel	.03⅜	.03½
Bunker C (bulk cargoes)	.95	1.00
Bunker C (bunkers)	.90	1.00

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 diesel (lighterage 6¼c per bbl.)		1.75
28-30 diesel (tank cars)		.04¼
Bunker C (to ocean-going ships in N. Y. Harbor)		1.15
Industrial fuel (tank cars)		.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.23
150-160 D, 0-10		.20
150-160 D, 15-25		.19
150-160 E, 15-25		.19
100-110 D, 0-10		.19
Steam-refined:		
631 green (treated)		.16
600 dark green (untreated)		.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.28½	.31
15 pour point	.27½	.30
25 pour point	.25½	.28½
Steam refined:		
600	.12	.13
650	.14	.15
600 flash	.14½	.15½
630 flash	.17½	.18½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3	.10
180-3	.11
180-4	.10½
200-3	.11½
200-4	.11
250-3	.12½
250-4	.12
280-3	.13½
280-4	.13
300-6½	.14
400-3½	.15
100-2½ paraffin oil 15-20 pour point:	.06
200-3	.11
200-4	.10½
250-3	.12
250-4	.11½
280-3	.13
280-4	.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07⅝
500-3½	.08½	.08⅝
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09⅝
1,500-4	.09⅝	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08⅝	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point	.27½	.28
10 pour point	.26½	.27
15 pour point	.25½	.26
25 pour point	.23½	.24
200 vis. at 70° F., 3 color:		
Zero pour point	.30½	.31
10 pour point	.29½	.30
15 pour point	.28½	.29
25 pour point	.26	.28

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale		.0350

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.0320	.0330
124-126 (A.m.p.) w.c. scale	.0340	.0350

NEW YORK—

Wax in bags fully refined:	
123-125 (A.m.p.) wax	.0375
125-127 (A.m.p.) wax	.0390
128-130 (A.m.p.) wax	.0400
130-132 (A.m.p.) wax	.0435
133-135 (A.m.p.) wax	.0465
135-137 (A.m.p.) wax	.0490
124-126 (A.m.p.) w.s.	.0375
124-126 (A.m.p.) y.s.	.0350
Petrolatum in barrels, carload lots:	
Dark green	.02 .02½
Amber	.02⅜ .02½
Extra amber	.02⅝ .02¾
Lily white	.05½ .05¼
Snow white	.06¼ .06¼
Cream	.04½ .04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05	.05¼
60-62 400	.05½	.06
65 octane	.06¼	.06½
68 octane	.06¾	.07
70 octane	.07	.07½

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04¼	.04½
65-69 octane	.04½	.04⅝
Above 69 octane	.05	.05½

KEROSENE

GULF COAST—

41-43 prime white	.05¼
41-43 water white	.05¼

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s) in bbls.—

Cylinder stocks:		
600 S.R. unfiltered	.19½	.20
650 S.R. unfiltered	.21	.23½
600 flash, S.R.	.21½	.24½
630 flash, S.R.	.25	.27½
Bright stocks:		
8 color	.30	.35½

NEUTRAL OIL

200-3 color	.30	.32
150-3 color	.28	.30

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.	.03625
125-127 A.m.p.	.0375
128-130 A.m.p.	.0400
133-135 A.m.p.	.0425
135-137 A.m.p.	.0465
Crude scale:	
124-126 w.s.	.0375
124-126 y.s.	.0350

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ending Sept. 23 High	Week ending Sept. 23 Low	Week ending Sept. 23 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
74½	50	71	68	71	Amerada Corp.	788,675	N.P.	50cQ	7-1-39	$2.00	$2.07	$3.04	78	55	111⅞	51½
24⅜	18⅛	23⅞	22¼	23¾	Atlantic Refining	2,663,999	$25	25cQ	9-15-39	1.00	1.40	3.51	27⅝	17¾	37	18
21½	10¼	15⅛	13¾	14⅝	Barber Asphalt Co.	980,223	$10	75c	12-16-37	....	—.85	1.91	23¾	12⅛	43⅜	10¼
19½	11⅛	17¼	15⅝	16⅝	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-39	1.00	1.26	.85	21⅝	10½	35¼	10
9⅞	6½	9	8½	9	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	8-15-39	.80	.55	1.48	10⅜	7	17⅞	7
31½	19⅞	30¾	27	30⅝	Continental Oil of Delaware	4,682,581	$5	25cQ	9-28-39	‖1.00	1.10	2.98	35⅝	21¼	49	24
9⅝	4½	8⅝	7¼	8	Houston Oil (new)	1,098,618	$25	....	10-17-30	..	.83	.94	9⅝	5	17⅝	4⅜
20¼	10	17	16	16	Lion Oil Refining	435,815	N.P.	25cQ	10-10-39	1.00	2.09	2.17	25½	15⅝	34	12½
18	11⅛	17	15½	16⅝	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	.56	2.86	22⅝	12¼	35⅜	14
14⅞	8⅜	13½	12⅜	12⅝	Mission Corporation	1,379,245	$10	25c	6-29-39	1.00	1.04	1.31	17⅜	10⅝	34	15
15½	5⅝	13¼	11½	12½	National Supply	1,155,517	$10	$2 pf.‡	12-22-37	....	—.79	4.90	23	12½	41⅜	17⅝
10½	6	9⅝	8½	9⅛	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅞	22⅞	8
11⅞	7⅜	10½	9¾	10	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.22	1.39	15⅞	10¼	29¾	11⅞
46⅛	31¼	46½	42½	45½	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-39	‖2.00	2.03	5.42	44⅜	27¼	64	30⅛
24	17⅛	23⅝	21½	23	Plymouth Oil Co.	1,006,200	$5	35cQ	9-30-39	1.40	2.59	2.65	25⅝	15	29⅞	13
11⅝	6⅛	10⅞	9⅝	10⅝	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	....	.38	2.15	13½	8¼	24⅜	8⅜
10¼	6⅝	9	8⅜	8½	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅜	5	6⅛	4⅛
24⅜	15½	23	21¼	22	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-39	1.00	1.52	1.97	27½	15½	54½	16
17¼	9⅞	16	13⅜	15⅛	Shell Union Oil	13,070,625	N.P.	25c	7-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅞
29¼	15½	25¼	23¼	23½	Skelly Oil	995,349	$15	50c	11-15-39	1.00	2.27	6.07	34⅜	18½	60⅝	26½
15⅛	10¼	14½	13½	14	Socony-Vacuum	31,206,071	$15	25cSA	9-15-39	.50	1.29	1.82	16⅝	10⅜	23¼	13
33⅝	24¼	32	29½	31⅝	Standard Oil of California	13,004,153	N.P.	25cQ	9-15-39	1.40	2.22	3.17	34⅞	25⅛	50	27⅛
30	22⅜	28⅝	27	28	Standard Oil (Indiana)	15,272,020	$25	25cQ	9-15-39	1.00	1.82	3.66	35½	24⅜	50	28⅛
53½	38	51¾	49⅝	51	Standard Oil of New Jersey	26,618,065	$25	50c¶	6-15-39	‖1.50	2.86	5.64	58⅜	39⅜	76	42
66	45¾	57¾	55	57½	Sun Oil	2,316,484	N.P.	25cQ	9-15-39	1.00	1.07	3.86	65⅛	45	77½	44⅛
3⅝	1⅜	3¼	2⅜	3⅛	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1⅜	7⅜	1⅛
50⅜	32½	49	44¼	48	Texas Corp.	10,876,882	$25	50cQ	7-1-39	2.00	2.13	5.02	49⅝	32⅝	65⅛	34⅜
5⅜	3¼	5	4½	4⅞	Texas Gulf Producing Co.	888,144	N.P.	10c	6-15-39	.15	.86	.08	5⅞	2⅝	9⅝	2
11⅝	7	10½	9¼	10¼	Texas Pacific Coal & Oil	888,236	$10	10c	9-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14¼	9½	13⅞	12½	13	Tide Water Associated	6,375,253	$10	15c	9-1-39	1.00	1.28	2.08	15⅜	10½	21⅝	13⅛
19⅜	15⅛	18⅜	17⅜	18¼	Union Oil of California	4,666,270	$25	25c	8-10-39	1.20	1.47	2.58	22½	17⅛	28½	17⅛
24¼	20½	24¼	22	44¼	Union Tank Car Co.	1,177,381	N.P.	30cQ	9-1-39	1.30	1.16	1.70	23½	20	31½	23
3⅞	2⅜	3⅞	3¼	3⅝	Wilcox Oil & Gas	487,568	$5	....	5-10-28	....	.52	.24	3½	1⅜	6¼	1⅜

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds. ¶Also 1 per cent in stock. —Deficit.

New York Curb Exchange

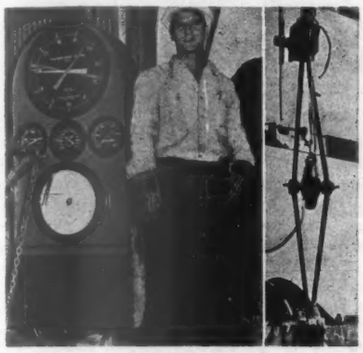
1939 High	1939 Low	Week ending Sept. 23 High	Week ending Sept. 23 Low	Week ending Sept. 23 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
11¾	5½	10	9	9¼	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11¾	5	10	6⅝
7½	2½	4⅝	4	4⅜	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	10⅛	4⅞	21⅜	7
34⅜	26½	28½	28	28½	Buckeye Pipe Line Co.	200,000	$50	50c	9-15-39	2.00	2.36	4.02	39	22½	51½	36
130	110	117½	115	115	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-25-39	6.50	5.32	6.73	128	97	112	95½
9¼	4½	6½	6⅛	6¼	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5½	5⅝	1⅛
2¼	½	1⅞	1⅝	1⅝	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅜	⅞	5½	1⅛
28	16¾	25⅞	24	25½	Creole Petroleum	6,975,383	$5	50cSA†	6-15-39	1.00	1.64	1.61	27½	17½	38⅜	20¾
7⅛	3⅝	6	5⅛	5⅞	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.38	10⅛	5½	18⅝	6⅛
2⅝	1½	2½	2½	2½	Derby Oil & Refining	263,162	N.P.	....	....	....	—.91	1.34	3½	1½	8⅜	2¼
20	15⅛	18	18	18	Eureka Pipe Line	50,000	$50	50c	8-1-39	3.00	—.37	—.12	31	16	47½	24⅛
45	29¼	43⅝	41¼	43⅝	Gulf Oil Corp.	9,076,202	$25	25cQ	10-1-39	1.00	1.43	3.51	46⅞	33	63½	33
71	52½	69⅝	67½	68¾	Humble Oil & Refining	8,987,840	N.P.	62½c	10-2-39	3.00	3.98	5.22	72⅝	56	87	54⅜
17	11½	13¾	11½	12⅝	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-39	1.25	.96	.98	19½	14⅛	24¼	14⅛
7	5⅝	6½	6½	6½	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	.47	1.03	9⅜	6	15	5⅛
27½	17½	20	18½	19	International Petroleum	14,324,068	N.P.	1.00†‡	6-1-39	2.50	1.98	....	31¼	21	39½	23⅛
3¾	2⅛	2⅝	2½	2⅝	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8⅜	2⅜
9½	7⅛	8¾	8⅜	8⅜	Lone Star Gas	5,553,747	N.P.	20c	8-21-39	.60	.88	1.14	10⅜	6⅝	14⅛	5⅛
7¾	4	7	6	6½	Louisiana Land & Exp.	2,977,449	$1	10cQ	9-15-39	.45	.45	.58	9⅜	6½	15⅛	6⅝
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-39	1.00	2.28	3.26	24	16	33½	17
8¾	6⅝	7½	7¼	7⅝	Midwest Oil Co.	998,474	$10	45c	6-15-39	1.00	.93	1.14	9⅜	6⅝	14⅝	6¼
5⅞	4⅞	5⅝	5⅜	5½	Mountain Producers	1,593,584	$10	30cSA	6-15-39	.60	.62	.76	5⅝	4½	7⅞	4⅛
13⅞	11¼	13⅞	12¾	13½	National Fuel Gas	3,810,183	N.P.	25cQ	10-16-39	1.00	.84	.96	14⅜	11½	19½	12
8⅝	7¼	8½	8	8⅛	National Transit	509,000	$12.50	35c	6-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1¾	1½	1½	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅝	1½	5	1⅜
4⅞	4	..	..	..	New York Transit	100,000	$5	15c	4-15-39	.25	.16	.49	4½	3½	5⅝	3⅜
6	4¼	..	..	..	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.24	.78	6	4	12⅜	5⅜
7⅝	4	5⅝	4¼	5⅝	Pantepec Oil	2,857,000	$1	....	....	....	....	....	7⅝	3½	9⅜	2⅜
7½	4¼	2⅝	2¼	2⅝	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12⅜	2
3	1⅞	2½	2½	2½	Ryan Consolidated	298,931	N.P.	....	....	....	.29	.46	4	2⅛	6⅛	2⅛
4¼	3½	4½	4½	4½	Southern Pipe Line	100,000	$10	15cSA	9-1-39	.30	—.27	.85	5⅜	3¼	7¼	3⅜
37	26¾	38	35½	37½	South Penn Oil	1,000,000	$25	37½cQ	9-29-39	1.75	1.44	4.64	39	28¾	56	35
19¾	18	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-39	2.00	—.41	.95	22¼	16½	42	20
18⅞	17¼	18⅝	18⅛	18¼	Standard Oil of Kentucky	2,604,790	$10	25c	9-15-39	1.25	1.45	1.60	18⅜	15	21⅛	14⅜
26¾	17	26⅝	25⅛	26	Standard Oil of Ohio	753,740	$25	25c	9-15-39	1.00	1.81	3.67	22⅜	16¼	45	16
2⅝	1¾	2½	2⅜	2½	Sunray Oil	2,007,076	$1	5c	4-27-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	3¼	3⅛	3¼	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3⅛	7⅜	2
6	2½	4⅞	4⅞	4⅞	Transwestern Oil Co.	750,000	$10	....	....	....	—.12	.48	7⅜	4¼	13⅜	4⅜
3⅜	1⅝	2¾	2½	2½	United Gas Corp.	7,818,959	$1	....	....	....	—.51	.25	5¼	2⅜	13⅜	3

†Includes extras. ‡Payable in Canadian funds. —Deficit.

New or Improved Equipment

MacClatchie Announces New Weight Indicator

Accuracy, sensitivity, and freedom from temperature changes are features claimed for the new MacClatchie weight indicator, made by MacClatchie Manufacturing Co., Compton, Calif. This new weight indicator incorporates a new-type double-action hydraulic-diaphragm unit, suspended freely in a force parallelogram without any possibility of mechanical or frictional losses. This construction is said to insure a positive, accurate and sensitive reading under all types of operation.



The large-diameter gage insures maximum visibility. Any one gage may be removed from the case without impairing the use of the other gages. The pump assembly is mounted stationary in the bottom of the instrument case.

Another feature contributing to accuracy is that the fluid is held within the center disk, and protected on both sides of a heavy rubber disk and the metal housing of the diaphragm. Also it is protected on the outer rim of the housing by a rubber covering.

This diaphragm unit is completely surrounded by a special temperature insulator, so that the temperature change is reduced to a minimum. The copper tubing which connects the diaphragm unit with the indicating gage is also thoroughly insulated.

Dresser Clamp Covers Broad Range of Working Pressures

A special design of clamp, said to be suitable for practically any working pressure or service, has been developed by Dresser Manufacturing Co., Bradford, Pa. The function of the clamp, known as Style 55, is the repair of porous circumferential pipe welds, and of small pin holes and leaks in pipe. Standard pipe sizes for which the Style 55 clamp is available are 1¼-in. i.d. to 26-in. o.d. inclusive.

Advantages named by the manufacturer include suitability for high-working pressures; quick, inexpensive, permanent repairs; easy installation of the few simple parts around the pipe, under all normal pressures, without interruption of the service.

The clamp is described as consisting of (1) two split (sectioned) followers; (2) a heavy, specially grooved, split gasket that fits over the weld; (3) a stainless-steel, split, gasket-retaining band that encircles the gasket; (4) a length of wire to hold the band in place during assembly, and (5) the required number of track-head steel bolts.

Here and There With Men Who Manufacture Equipment

Midwestern Engineering & Construction Co., organized just a year ago by F. E. Stanley, C. C. Bledsoe, B. L. Weller, and Norman V. Jones, is located at 418 McBirney Building, Tulsa. The company acts as consulting engineers and contractors, handling inventory and appraisal work on pipe-line, power-line and municipal work.

Dana J. Fox, for four years vice president, treasurer and a director of Fretz-Moon Tube Co., Butler, Pa., has been appointed assistant treasurer of National Supply Co., with headquarters in the general offices of the company, Grant Building, Pittsburgh, Pa.

E. M. (Mike) Cloran, formerly in the engineering department of Pittsburgh Equitable Meter Co. and Merco Nordstrom Valve Co. in Pittsburgh, Pa., has been transferred to the Los Angeles office. He will handle sales-engineering duties.

C. K. Stillwagon, president, Well Equipment Manufacturing Corp., Houston, Tex., who has returned from a trip through the Pacific Coast and Rocky Mountain territories, appointed Olympic Supply Co., Seattle, Wash., representative of WECO in Washington and Oregon. In Denver he appointed C. E. Strong, Jr., as representative.

Food Machinery Corp., Los Angeles, Calif., has purchased Kimball-Krogh Pump Co., a division of Victor Equipment Co. Food Machinery manufactures deep-well pumping equipment, and the merger will enable it to offer a new line of pumps in addition to its regular Peerless line. Victor will concentrate on the development and sale of its welding products.

Works New Cameron Sales Manager

Madden T. Works has assumed the duties of sales manager for Cameron Iron Works, Inc., Houston, Tex. Mr. Works received a mechanical engineering degree from Rice Institute in 1931. After 4 years of service in the engineering department of Abercrombie Pump Co., an associated company, he joined the Cameron engineering staff as assistant chief engineer.

M. T. WORKS *J. M. TEAGUE*

J. M. (Red) Teague has been appointed assistant sales manager for Cameron. Mr. Teague, who has served as sales representative for that company since 1937, will have his headquarters in Houston.

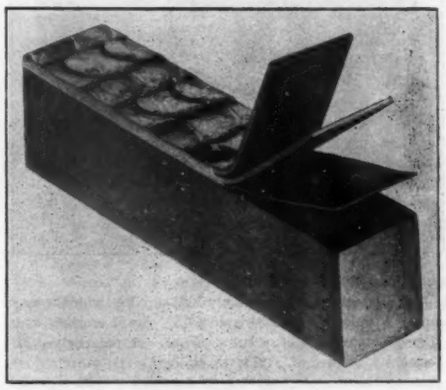
Frank Crow, a member of the Cameron engineering department, will fill the position of assistant chief engineer vacated by Mr. Works.

Retires as Sterling's Active Head

Charles A. Criqui, founder and for 33 years president of Sterling Engine Co., of Buffalo, N. Y., has turned operation of the company over to younger executives. He will serve as chairman of the board and on the executive committee of three. Active in the marine or industrial-engine field for more than three decades, Mr. Criqui said he intends to spend more time in traveling. The active heads of the company will be Spencer H. Logan, of New York, the new president, and Addison F. Vars, Buffalo and New York, advertising executive. Mr. Vars fill a new post, that of executive vice president. Charles A. Criqui, Jr., continues as an official and has been named to the board of directors.

Croloy Bond Plate Is Built for Refinery Pressure Vessels

In view of the increasing importance of alloy-clad plate in the fabrication of pressure vessels for refinery and other process industries requiring corrosion-resistant plate, the B&W Croloy bond plate, developed by Babcock & Wilcox Co., New York, is of special interest.



The plate consists of two or more thin layers of chromium alloy permanently bonded by electric-resistance welding to a base plate of carbon or carbon-molybdenum steel over its entire surface. The new plate offers advantages in resistance to failure resulting from repeated heating and cooling and retains all the advantages of this type of plate after undergoing the usual fabricating operations. The illustration shows the layer construction.

Two More Converters Getting J&L Flame-Control Device

With Bessemer flame-control equipment now being installed on the two converters at its Pittsburgh, Pa., works, the Jones & Laughlin Steel Corp. will soon have all of its five converters operating under this new scientific-control method, which features an arrangement of photoelectric cells.

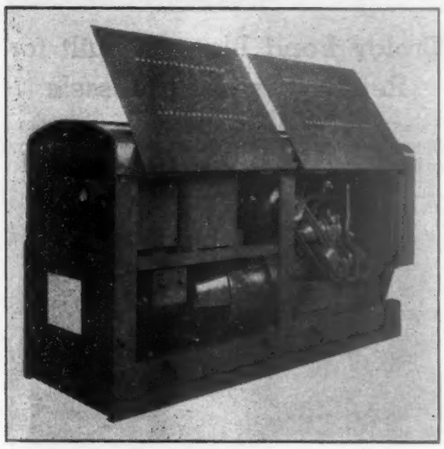
Continued use of this J&L invention, on which patent applications have been filed, is confirming its earlier success in controlling the Bessemer process to a degree of uniformity said never before to have been attained. With growing experience operatives are reaching higher skill in maintaining uniform temperatures and uniformly reproducible quality from heat to heat. Records of heats blown are showing narrowed range of temperature of the steel at the end of the blow; improvement in freedom from surface defects; sounder structure in the center of billets and bars, and higher degree of workability in machining, forming, and fabricating.

Hoelzel Elected President

John P. Hoelzel, formerly vice president and general sales manager of Pittsburgh Screw & Bolt Manufacturing Co., has been elected president. Mr. Hoelzel is widely known in both the steel and petroleum industries, having spent considerable time in the oil regions of this country prior to his election as head of the company. Pittsburgh Screw & Bolt Corp., manufacturer of bolts, nuts and rivets, also owns and directs the activities of Colona Manufacturing Co., Monaca, Pa., manufacturer of Colona pipe-thread protectors.

Lincoln's Newest Arc Welder Is Driven by Diesel Engine

A 300-amp. diesel-engine-driven arc welder, equipped with gasoline-engine starting, is announced by the Lincoln Electric Co., Cleveland, Ohio. This new welder



simplifies the use of diesel power.

The gasoline engine for starting the welder is a small auxiliary mounted above the diesel engine. It is started by means of a hand crank. A belt drive, engaged by means of a clutch, connects the starting engine to the diesel. Starting in extremely cold weather is facilitated by the fact that the cooling system of the small gasoline starting engine is connected into the cooling system of the diesel. This arrangement makes it possible to warm up the diesel by running the starting engine a short time and allowing the heated water to circulate through the diesel engine.

The new Lincoln diesel-driven welder is said to cut fuel costs 33 to 86 per cent, depending upon the type of fuel oil used. The diesel uses only 1½ gal. of fuel oil per hour at full-load operation. Total savings, including transportation of fuel, loss, etc., are, in many cases, as high as 40 cents per hour, according to the company.

The arc-welding generator is the 300-amp. "Shield-Arc S.A.E." unit, equipped with dual-continuous control and all the other features of the "Shield Arc." Dual-continuous control, by making possible the independent adjustment of both voltage and current, provides the right size and type of arc for all applications of arc welding.

O-C-T Announces Casing Head With Means of Testing Weld

Oil Center Tool Co., Houston, Tex., has revised its Type C-9-C casing head to include a means for testing the weld, which serves as an auxiliary seal of the annular space between casing strings.

The accompanying cross-section illustration shows the design of this casing head. After cement has set, the blowout-preventer equipment is raised, and the neoprene packing assembly, split slip bowl and three-segment slips are inserted in the body of the head. As soon as the casing is suspended on the slips, the weight of the casing string compresses the neoprene packing rings to effect a seal below the slips.

The casing then is cut off approximately a foot above the top of the head, blowout preventers are removed, and a welding flange is slipped over the casing and welded to it. An A.P.I. ring gasket effects a seal between flanges. After applying the weld, hydraulic pressure is applied through a port in the welding flange to test the weld before installing another casing head, tubing head, or christmas tree. Thus, with a neoprene seal below the slips, an auxiliary-welded seal above the slips, which also serves to prevent the casing from moving upward or downward, and an A.P.I. ring gasket between flanges, the annular space is positively sealed.

According to the manufacturer, the weld-testing apparatus weighs only 12 pounds, and the testing operation requires about 10 minutes of one man's time.

Joseph Reid Reorganizing

Reorganization and new financing plans of Joseph Reid Gas Engine Co., Oil City, Pa., will become operative in the near future. The plans provide for McKenna Brass & Manufacturing Corp., Millersburg, Pa., to purchase the plant and all the assets of the present company. The new company, operating under the name of Joseph Reid Gas Engine Corp., will be amply financed and will continue the operation of the plant in Oil City. It will manufacture the present line of gas and oil engines, transmission equipment, geared and band-wheel pumping powers and reduction pumping units. The new company will add improved designs of pumping machinery to the products now manufactured. The present company has designed several sizes of new engines with roller journal bearings and other advanced features.

Douglas Brown Chosen Head of O. C. S. Under New Ownership

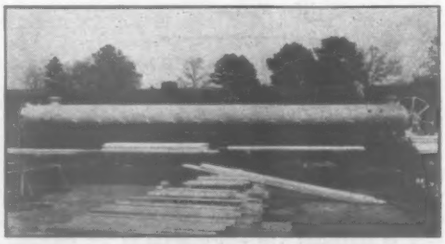
Douglas R. Brown, of Coffeyville, Kans., for 20 years vice president of O. C. S. Manufacturing Co., was elected president at a meeting in Coffeyville attended by officials of Parkersburg Rig & Reel Co., which has acquired the common stock of O. C. S. Associated with Mr. Brown are Don C. Myers, elevated from secretary-treasurer to vice president-treasurer; B. M. Farson, of Parkersburg, W. Va., secretary; and Van Frey, former office manager, now assistant secretary. Mr. Brown succeeds W. P. Turner, who retired from the presidency and directorate of the company which he headed for two decades.

Besides Mr. Brown, Mr. Farson and Mr. Myers, the directorate includes John M. Crawford and C. A. Ruf. Mr. Crawford is chairman of Parkersburg Rig & Reel Co., Mr. Ruf is vice president and general manager, and Mr. Farson is secretary-treasurer. C. B. Morton, district manager for O. C. S. in Tulsa, will continue in that capacity.

Parkersburg and O. C. S. will continue to operate as separate concerns, each maintaining its previous operating policies. O. C. S. is a pioneer in the design and manufacture of oil-field tools and has specialized in drilling and pumping equipment. It maintains manufacturing plants in Coffeyville, Houston, Tex., and Long Beach, Calif.

Stabilizing Tower Weighing 20 Tons Makes Load for Two Cars

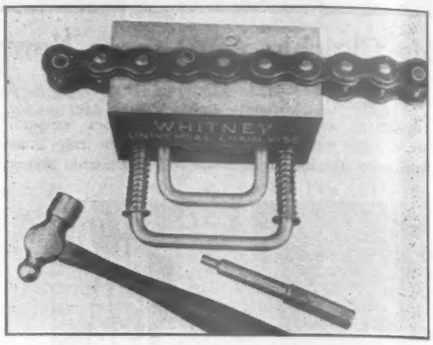
The illustration, provided by Wilson Welder & Metals Co., Inc., New York, shows a stabilizing tower, weighing approximately 40,000 lb. and requiring two cars for its transportation. The tower is 60 ft. long and 4 ft. in diameter. The maximum shell thickness is ⅞ in. and the maximum thickness of flanges is 2



in. The tower will operate at temperatures of 180° to 390° at a pressure of 250 lb. per sq. in. It was welded by J. B. Beaird Corp., Shreveport, La., and tested with 500 lb. cold-water pressure when completed. About 1,300 lb. of shielded-arc electrodes was consumed in this fabrication.

Whitney Universal Chain Vise Simplifies Installation Work

The Whitney Universal chain vise, announced by Whitney Chain & Manufacturing Co., Hartford, Conn., was developed to simplify the disassembly of roller



chains in pitches from ⅝ to 2½ in., and in single and many multiple widths. The fact that one tool will handle so many different sizes of chain is a major advantage. This tool holds the chain by spring action so that both hands are free for the disassembly operation. The chain support is such that chain parts are not damaged.

The vise is opened with one hand and the chain placed into the jaws. Upon releasing, the spring tension clamps the chain accurately into position, leaving both hands free for the disassembly operation.

In the case of riveted-type chain a few blows of a hammer on the rivet heads forces them through the plate and shears off the head in washer form. This eliminates any preliminary rivet-head grinding. It is also possible to repair a chain without removing it from the sprockets, since the spring tension will hold the tool in position and the weight of the vise is sufficient to act as an anvil.

Bannon Feed-Water Heater Is Built to Stand Rough Usage

The Bannon feed-water heater, manufactured by E. W. Bannon Engineering Co., Houston, Tex., is a light, easily portable ruggedly built unit designed to

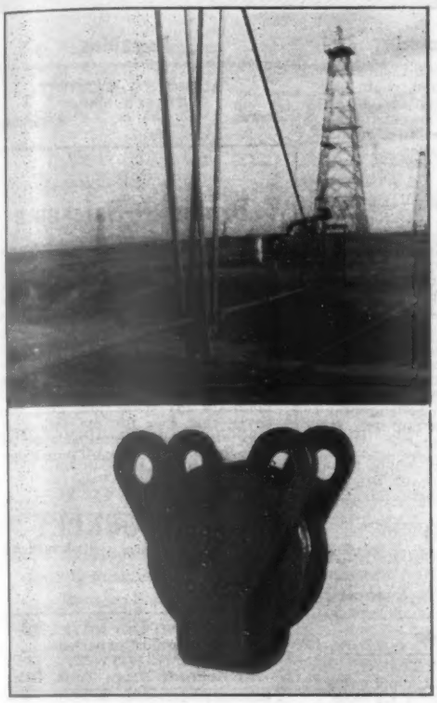
stand up under rough treatment. According to the manufacturer, it will greatly reduce boiler failures, and will increase both fuel economy and boiler efficiency.

The Bannon heater utilizes exhaust steam for heating the boiler-feed water. Cold water is conveyed to the heater by a pump mounted integrally with the heater, where it is sprayed over a distributing water ledge and rained down through a series of perforated trays. Steam enters the heater through a submerged oil separator, where oil is completely removed from the steam. The steam then flows through the trays in direct contact with the water. The water is supplied to the boiler at an average temperature of 210° F.

Mud, sand, and other free solids are precipitated to the extent of over 80 per cent, and as much as 20 to 30 per cent of scale is removed in the heater, the manufacturer says. Actual tests are said to show a boiler-fuel saving of over 11 per cent.

Jarco Roller Pull-Rod Carrier Can Be Slung From Above

Jarecki Manufacturing Co., Tulsa, announces a roller pull-rod carrier specially designed for rod lines crossing gullies or streams, where the "suspension bridge"



type of crossing is used. In an effort to eliminate the cost of holdups and holddowns, or to do away with high rod-line posts periodically washed away by water, some companies have resorted to the "suspension bridge" type of crossing shown in the illustration. Old wire line and casing are used to form the bridge. The rod line is supported by carriers, which, in turn, are suspended from the wire line by strap-iron supports.

The Jarco roller pull-rod carrier is offered with a special suspension frame for this type of installation. The working parts are the same as for the regular Jarco carrier. The carrier is oiled just twice yearly, oil being fed from the reservoir within the wheel, through the porous bronze bushing, to the hardened and lapped shaft. Bulletin No. 5 gives detailed information.

Bosch Makes Personnel Changes

Lee C. Carlton, formerly western division sales manager of American Bosch Corp., has been appointed sales manager of the company's newly created sales and engineering service division and will make his headquarters at the main office in Springfield, Mass. Foster N. Perry, formerly eastern division sales manager, has been named sales manager of the western division. Frank Oberle, of the Springfield office, succeeds Mr. Perry in the eastern division. Maynard A. Fowler, formerly district manager on the Pacific Coast, has been appointed sales manager of the newly created Pacific Coast division.

First Nomad Chapter in Texas Is Headed by Rex Hamaker

Rex Hamaker, vice president and sales manager of Reed Roller Bit Co., was chosen president of Texas No. 1 chapter of the Nomads at an organization meeting held September 15 at the River Oaks Club, Houston. Membership in the Nomads is composed mainly of oil equipment men who have seen service in foreign lands. Frank Champion, vice president and general sales manager of Byron Jackson Co., who was active in establishing the first chapter of the association in Los Angeles, Calif., was made vice president.

Kenneth Craver, Thornhill-Craver Co., was elected first sergeant-at-arms; Gordon Richmond, Hughes Tool Co., assistant sergeant-at-arms; William V. Gross, Oil Weekly, secretary-treasurer; Ray L. Dudley, Gulf Publishing Co., assistant secretary-treasurer.

Charter members in addition to the officers are Joe H. McEvoy, McEvoy Co.; J. E. Elliott, Byron Jackson Co.; W. T. Campbell, Mission Manufacturing Co.; E. J Robishaw, A-1 Bit Co.; C. E. Whitney, Baker Oil Tools Co.; O. D. Small, Portable Rig Co.; J. D. Isaacks, Kerotest Manufacturing Co.; W. L. Childs, Reed Roller Bit Co.; C. W. Wood, Howard Smith Co.; W. A. Davis, Baker Oil Tools, Inc.; Charles and Homer Thornhill, Thornhill-Craver Co.; John Teer, Layne & Bowler Co.; Carl Vogt, Shaffer Tool Works; Louis Pierce, Texas Iron Works; Bedford Sharp, Mission Manufacturing Co.; B. E. Johnston, Baash-Ross Tool Co., and J. M. O'Melveny, Patterson-Ballagh Corp.

The purpose of the organization, according to the constitution adopted, is "to promote the spirit of cooperation and of good fellowship among its members and guests, and to that end to encourage those engaged in the distribution of oil-field equipment to foreign lands to, at appropriate intervals and upon all auspicious occasions, lay down their labors and indulge in the society and companionship of their fellow members and those interested in the marts and commerce of the world."

It was said that when an oil man goes to the Gulf Coast to study equipment and production methods or other operations the Nomads will cooperate in seeing that he receives all the information possible and that he has free access to manufacturing plants.

Frank Champion, chairman, Ray Dudley, and Gordon Richmond were appointed a committee to receive applications for membership.

Trade Literature

INTERNATIONAL NICKEL CO., INC., 67 Wall Street, New York.—Bulletin, "Nickel-Bearing Alloys Used in Petroleum-Refining Equipment."

WILLAMETTE HYSTER CO., Portland, Ore.—Current issue of Oil and Industry.

HAZARD WIRE ROPE DIVISION, AMERICAN CHAIN & CABLE CO., INC., Wilkes-Barre, Pa.—Catalog 20, wire rope.

FOXBORO CO., Foxboro, Mass.—Bulletin on Rotax controllers.

AMERICAN ROLLING MILL CO., Middletown, Ohio.—Bulletin on gas-gathering lines.

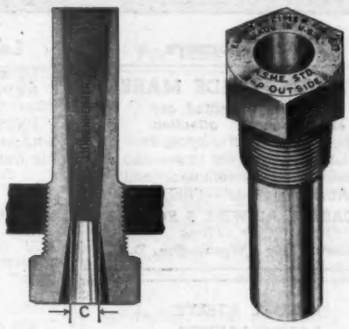
HENRY VOGT MACHINE CO., Louisville, Ky.—Bulletin on new forged-steel sectional-header-type boiler.

CRANE CO., 836 South Michigan Avenue, Chicago.—Four-page circular on new line of 200-lb. brass gate valves.

JOHNS-MANVILLE, 22 East Fortieth Street, New York.—Folder describing new J-M 420 brake lining.

Lunkenheimer Fusible Plug Is of Extra-Long Construction

Lunkenheimer Co. has just placed on the market an extra-long high-pressure fusible plug, Fig. 1617, for use on high-pressure oil-field boilers. It is inserted from



the outside (fire side) of the plate or tube. Each plug is stamped "A.S.M.E. Standard" to signify the materials, design and construction conform with A.S.M.E. code specifications. A.P.I. field-boiler-code requirements are the same as the A.S.M.E.

The casing of Fig. 1617 is bronze. The fusible core is pure Banca tin carefully alloyed to the casing. The extra-long construction is to insure the plug protruding into the water far enough to allow sufficient radiation of heat from the fire box and thus prevent the core from melting at high water level. However, the plug will actuate should the water drop below the safe low level, or if excessive foaming occurs at low water level, which might injure the crown sheet or tubes. The long pipe thread fits not only standard pipe-threaded openings, but also openings that have been stretched oversize.

Compact Air Circuit Breaker

Approximately half the size of previous devices of the same rating is an air circuit breaker announced by Westinghouse Electric & Manufacturing Co. Among important improvements in these new breakers is a de-ion arc chamber, a device simple in construction, which operates on either alternating or direct current. It operates on any current within the range of established interrupting ratings. Arcing current is limited to ½ cycle, which minimizes the noise and flash accompanying the interruption of a short circuit. The circuit breaker itself is stronger than previous air breakers.

MURPHY DIESEL MOUNTED EXHIBIT VISITING OIL FIELDS

Murphy Diesel Co.'s traveling exhibit is shown here calling at the Fairfield, Ill., store of Lucey Products Corp., distributor for Murphy diesel engines in the oil country. This mounted exhibit will visit oil fields, making demonstrations of the Murphy diesel engine.

Shown in the picture, left to right, are: George Hough, sales manager, Murphy Diesel Co.; M. C. Morgan, pilot, Lucey Products Corp.; L. W. Baker, vice president, Lucey Products Corp.; Claude Voyles, oil producer; Jim Topper, Southern Illinois Lumber Co.; J. H. Hudson, drilling contractor; R. L. Merrill, district manager, Lucey Products Corp.; Ernest Ketch, district superintendent, Texas Co.; E. E. Davis, contractor; Bill Cross, superintendent, Oil Well Drilling Co.; Bill Morgan, oil-field representative, Murphy Diesel Co.; Pat Banse, service engineer, Murphy Diesel Co.

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SACRAFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

NOT leased—700 acre tract at Rising Sun on Wabash River, White Co. Ill. near prod. Offers considered. John M. Eckley, 319 Midland Sav. Bldg., Denver, Colo.

MISSOURI Leases in blocks and scattered acreage. HARRAH and FRITH. Chillicothe, Missouri.

HAVE some choice oil leases near three wells to start drilling soon. All Arbuckle Lime tests, on structure. Cheap. Geologist, Box 441, Winfield, Kans.

60% INTEREST 7000 ac. Colorado Free for 2500 ft. well to test Pennsylvanian through Ordovician Structure, source beds, and Sands approved by first class geologist. W. P. THOMSEN, 412 W. 6th St., Los Angeles, California.

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FOR SALE: Clinton gas property; northern Ohio; 500 acres; one well just completed with high rock pressure; steady market; 18c at well. C. A. McMillen, Elyria, Ohio.

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OIL SPECIALIST tax consultant. Age 37. C.P.A. 14 yrs. experience, which includes systematizing, financial reports and diversified public accounting. Highest credentials as to integrity and creative ability. Address Box K-130, The Oil and Gas Journal, Tulsa, Okla.

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Mailing Lists

ROYALTY Lists. Oil Investor Lists Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Oil Industry Printing

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Business Opportunities

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If we do not maintain a classification exactly suited to the type of advertisement you wish to run we shall be glad to create a fitting one.
Classified Department

PIONEER OIL AND GAS ENGINE builders will consider selling its name, patterns, machinery and equipment, part or all, and inventory at low figure to manufacturer who will continue repair service to customers including U. S. Government Address Box K-290 The Oil and Gas Journal, Tulsa, Oklahoma.

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WILL buy unitized Diesel Rig, including derrick, drill pipe, casing, wire rope, etc., new or nearly so. For small-hole drilling to 7,000 feet, foreign. Send price per unit, total price, and price f.o.b., state which U. S. port. Send specifications and if will sell all or part. Address
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Tulsa, Oklahoma.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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UNITED REFINERY—RUSSELL, KANS.

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FOR SALE

One complete late type drilling rig consisting of: 2 125-H.P. boilers, 5,500 feet of 4" seamless drill pipe, 7" Unitized draw works with all necessary additional parts.

Also a complete stock of line pipe, casing, tubing, drilling machinery and pumping equipment.

Wire, Write, or Phone for prices.

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50% SAVINGS!
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FOR SALE—Complete pipe line pump station. 3 Miller 70 HP Gas Engines, with new spare parts. 3 Goulds 4-stage line pumps with new spare parts. 1 25-HP F&M Gas Engine, 1 generator and 1 air compressor. Located Jal, New Mexico. For quick sale call Westerly Supply Company, Phone 150, Wink, Texas.

STEAM DRILLING RIG
Unitized 3 speed — 2 shaft Oilwell 7" Drawworks.
2—New Lucey 104-HP 300# W. P. boilers.
1—18" Wilson-Snyder Steam pump.
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1—New Lee C. Moore 122' drilling derrick. Rig complete with blocks, swivel, rotary table, derrick equipment and floor tools. Will sell for cash or credit memorandum from reputable supply company.
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HOUSTON, TEXAS INDUSTRIAL DISTRICT. 27 acres whole or part. Steel shed 75-x300; equipped with 7 ton Milwaukee traveling crane, ideal for oil tool manufacturing plant. Rail, water, highway connections. Further details upon request. Write, phone, or wire: The Vaughan Lumber Co., P. O. Box 1447, Houston, Texas.

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Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

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Government crawler type Caterpillars, 8 ton $375, 10 ton $695, Slightly used. Perfect condition.
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Oklahoma, Texas, New Mexico; new low bargain prices—mountains or plains. Howard Ingram, Perrine Bldg., Okla. City, Oklahoma.

For Sale—Maps

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Zingery Oil Map Co., Fort Worth, Tex.

R. B. ROBINSON MAPS
Jackson, Miss. 312 Century Bldg.
Ownership maps of Yazoo and forty other Mississippi counties

Crude-Oil Price Changes

Effective September 22, Commonwealth Pipe Line Co. of Holland, Mich., increased its crude-oil prices 7 cents per barrel in the Salem, New Salem, Dorr, Monterey and Diamond Springs fields of Allegan County; Walker-Wyoming field in Kent County, and the Tallmadge field in Ottawa County, making the new price in each of the pools named 95 cents per barrel. The Imperial Pipe Line Co. met the price on the same day in the pools in which it competes with Commonwealth as a buyer.

Commonwealth continues to post 77 cents per barrel for heavy crude from Zeeland Township, Ottawa County.

Tri-Lakes Pipe Line Co., subsidiary of Standard Oil Co. of Ohio, effective September 22, advanced its crude prices 7 cents per barrel in all southwestern Michigan fields in which it purchases.

Naph-Sol Refining Co., Mount Pleasant, Mich., advanced Van Buren County, Michigan, crude 7 cents to 90 cents per barrel, and Allegan County crude 7 cents to 95 cents per barrel, effective September 22.

Effective September 14, Gulf Refining Co. posted Lisbon, Louisiana, crude prices as follows: 27-27.9°, 66 cents, with 2 cents added for each degree up to and including 35° and over at 82 cents. The company had been paying a flat price of 77 cents since May 1.

Crude-Oil Prices

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the September 7 issue. All changes in crude-oil price schedules will be published completely in the first issue following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, La.	1.03
Smackover, Ark., heavy	.73
Illinois basin	1.05
Pecos County, Tex.	.78
Lance Creek, Wyo.	.77
Bradford, Pa.	2.00

Gravity Schedule

Top prices include all gravities above grades designated and low prices include all gravities below grades designated:

	Signal Hill, Calif.	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$.80	...	...
15-15.9	.80	...	...
16-16.9	.80	...	...
17-17.9	.80	...	...
18-18.9	.80	...	$.79
19-19.9	.82	...	.79
20-20.9	.85	$.70	.82
21-21.9	.88	.72	.85
22-22.9	.92	.74	.88
23-23.9	.95	.76	.91
24-24.9	.99	.78	.94
25-25.9	1.03	.80	.97
26-26.9	1.06	.82	1.00
27-27.9	1.10	.84	1.02
28-28.9	1.14	.86	1.04
29-29.9	1.17	.88	1.06
30-30.9	1.21	.90	1.08
31-31.9	...	.92	1.10
32-32.9	...	.94	1.12
33-33.9	...	.96	1.14
34-34.9	...	.98	1.16
35-35.9	...	1.00	1.18
36-36.9	...	1.02	1.20
37-37.9	...	1.04	1.22
38-38.9	...	1.06	1.24
39-39.9	...	1.08	1.26
40-40.9	...	1.10	1.28

Tests in the Foothills

CHATHAM, Ont., Sept. 23.—On the Pouce Coupe structure in the northern foothills west of Peace River, Alberta, Benedum & Trees' No. 1 Guardian, Section 7-80-12w6, bottoming in the limestone at 4,805 ft., is making a production test before deepening into the lime.

On the Brazeau structure west of Edmonton Home Oil Co.'s No. 1, LSD 16, Section 7-43-17w5, at 6,645 ft. encountered a strong gas flow, estimated around 2,000,000 cu. ft. a day, which jammed the tools in the casing. The strike was apparently made in the McDougall-Segur sand. The crew is fishing, and will probably test production before deepening to the lime.

On the Ram River structure Ram River Oils, Ltd., is making location for No. 2 and arranging for new equipment. No. 1, Township 38-12w5, will be left standing at 1,490 ft., where some faulting was encountered.

On the Grease Creek structure west of Olds Grease Creek-Northwest Co.'s No. 1, LSD 2, Section 13-29-7w5, is in the lower Benton formation below 4,110 ft.

On the Kootenay dome Roxana Petroleums' No. 1, Section 8-24-7w5, is in the Devonian limestone below 4,705 ft.

On the Jumping Pound structure Brown Consolidated's No. 1, LSD 3, Section 36-24-5w5, is below 5,087 ft. after getting the McDougall-Segur sand at 4,800 ft. Some very minor faulting has been encountered, but the limestone is expected a little below 6,100 ft.

In the southern foothills, south of Turner Valley, A. P. Con - Sheppard Creek's No. 1, LSD 6, Section 7-16-2w5, has spudded. Location is close to the old Christie well which encountered good shows of light crude in horizons above the lime.

On the Savannah Creek structure Anglo-Canadian Oil Co.'s No. 1, SW¼ Section 20-14-4w5, is in the Blairmore formation below 2,864 ft. and logging high. Several gas horizons have been encountered and the well is producing sufficient gas to fire the boilers.

New York Market

(Continued from Page 111)

Oil Co. and Tide Water Associated Oil Co. followed by a week similar action on the part of Sinclair Refining Co. For several months South Penn and Tide Water had purchased on a basis of 75 per cent of maximum production from crude-oil connections. Despite removal of producing restrictions in the Pennsylvania district, it is estimated by observers in that territory that the manufacure of lubricating oils cannot be increased by more than 10 per cent over the previous rate without installation of additional refining facilities.

Tank-Wagon Changes

(Continued from Page 112)

Vicksburg, Jacksonville, Miami, Pensacola; 1 cent in Atlanta; same date, reduced tank-wagon kerosene .5 cent in Augusta and Tampa.

Continental Oil Co. September 14 advanced tank-wagon dealer gasoline .5 cent in Little Rock and Fort Smith; same date, advanced tank-wagon dealer gasoline 1 cent in Oklahoma City.

Socony-Vacuum Oil Co., Inc., September 19 advanced dealer tank-wagon gasoline .5 cent in Burlington. September 20, advanced tank-wagon kerosene .25 cent in New York, Albany, Syracuse, Portland, Manchester, Burlington, Springfield, Worcester, Hartford, New Haven; same date, advanced tank-wagon kerosene .5 cent in Boston.

Standard Oil Co. (Indiana) September 13 reduced tank-wagon gasoline .6 cent in Wichita.

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